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TRAFFIC SPEED REPORT NO. 77

SEPT. 1963
NO. 27

Joint Highway Research Project

PURDUE UNIVERSITY
LAFAYETTE INDIANA

Progress Report

TRAFFIC SPEED REPORT NO. 77

TO: K. B. Woods, Director
Joint Highway Research Project

September 27, 1963

FROM: H. L. Michael, Associate Director
Joint Highway Research Project

File: 8-3-3
Project: C-36-10C

Attached will be found "Traffic Speed Report No. 77" conducted in June of 1963. This report is the latest phase of the Indiana continuing speed study.

It is composed of data taken from observations on free-flowing rural arterial highways throughout the state, and it analyses the trends in traffic speeds by highway classification and vehicle type. The data shall also be made available to the Bureau of Public Roads for inclusion with other states in their annual speed trend study.

The study and report were conducted by Mr. Lawrence Schulman, Graduate Assistant on our staff, under the direction of Professor H. L. Michael.

The report is presented for information and the record, and it is requested that approval be granted to distribute copies to the Bureau of Public Roads, the Indiana State Police, the Office of Traffic Safety and the Traffic Safety Foundation.

Respectfully submitted,

Harold L. Michael

Harold L. Michael, Secretary

HLM:bc

Attachment

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Progress Report

TRAFFIC SPEED REPORT NO. 77

by

Lawrence Schulman
Graduate Assistant

Joint Highway Research Project

File No: 8-3-3

Project No: C-36-10C

Purdue University

Lafayette, Indiana

September 27, 1963

TRAFFIC SPEED REPORT NO. 77

Introduction

This report is an analysis of spot-speed observations made during June of 1963. All observations were made on free-moving vehicles operating on level, tangent sections of rural highways during daylight hours and under favorable weather conditions. The data were collected on three types of highways: two-lane, four-lane and interstate and were classified by direction, state and type of vehicle.

In order to analyze a representative sample of traffic speeds throughout the state the stations were located as follows:

Interstate Highways

1. I-80 0.7 miles east of junction of SR 912
2. I-65 1.0 mile north of junction of SR 334
3. I-74 1.0 mile east of junction of Post Road
4. I-65 2.9 miles north of junction of SR 160

Four Lane Highways

5. US 31 1.2 miles south of junction of SR 38
6. US 52 1.0 mile south of south junction of SR 28
7. US 41 1.0 mile north of south junction of SR 2
8. US 52 1.0 mile north of Klondyke

Two Lane Highways

9. US 41 1.0 mile north of Boswell
10. US 52 2.0 miles north of Templeton
11. US 31 3.0 miles south of Rochester
12. SR 25 0.7 miles west of Americus

Equipment and Field Procedure

The data for this study were obtained by use of an Electromatic Radar Speed Meter - model No. S-5. The meter was placed approximately three feet from the edge of the pavement at an angle of less than 10° with the centerline of the highway. Speed inaccuracies are negligible at small angles and corrections were unnecessary.

At the beginning of the study a test was performed to determine the accuracy of the Radar Meter by use of the calibrated fifth wheel. Tests were made for speeds between 20-70 mph in increments of 10 mph, and it was found that when an error did exist, it was at most 1/2 mph. Since the Radar Meter is calibrated in even miles per hour requiring an estimation of the odd mile per hour readings, it was deemed unnecessary to use a calibration curve for an error of 1/2 mi. During the survey the Meter was periodically checked with the 30 mph and 45 mph tuning forks to guarantee correct operation of Meter.

Procedure and Analysis

The data from previous studies indicated that four locations in each classification would provide a reasonable estimate of average speeds at a moderate cost and consequently four of each type were observed. Also, it was previously indicated that 215 observations would allow an estimate of the average passenger car speeds within plus or minus one mile per hour at a confidence level of 95%. Similarly, 35 observations of heavy trucks were found to permit an estimation of average truck speeds within plus or minus 2 miles per hour at a confidence level of 90%. These minimum sample sizes were used for this study and consequently the average speeds recorded at the stations are estimates with possible error and confidence as noted, of the true average speeds at these locations under the existing conditions at the time of estimation. The speeds were recorded to the nearest mile per hour.

The vehicles were classified as passenger car or truck. Passenger car data was further classified into two groups - Indiana or out-of-state and the analysis was performed singly and combined. The trucks were also classified into two groups - light (less than 5000 pounds gross weight) or heavy (more than 5000 pounds gross weight) and the analysis was performed singly and combined. The data were recorded and analyzed in the above manner to compare Indiana and out-of-state observed speeds with legal speeds and the observed truck speeds with the legal speed according to weight classification. The speed limits in Indiana are as follows: 65 miles per hour for passenger cars and light trucks; 55 miles per hour for heavy trucks on divided highways with a median width of 20 feet or

more and 50 miles per hour for heavy trucks on other highways. All four lane and interstate highways observed in this study were divided by a median at least 20 feet in width.

Summary and Results

The data collected at each observation station are summarized by station in Tables 1 through 12 and by type of facility - interstate, four-lane, two-lane - in Tables 13 through 15. Table 16 is a summary of all the data collected. Figures 1 through 16 are cumulative frequency curves computed and drawn from each of the corresponding tables. Speed trend data for the past few years are tabulated in Table 17 and shown graphically in Figure 17.

From Table 17 and Figure 17 it is apparent that speeds have increased and leveled off over the last ten years. Although there appears to be a general increase of 1 mph on all facilities since last year, this may be due to an inconsistency between the last and present observer and the general leveled trend may actually be continuing. The 85th percentile speed has also shown an apparent stabilization during recent years. The figures show an 85th percentile speed of approximately 66 mph for four-lane and interstate facilities and 64 mph for two-lane facilities. This is of interest when compared with the permissible top speed of 65 mph allowed on Indiana roads.

Truck speeds have shown a decrease in speeds in comparison with the previous year's figures. These results when viewed in light of a general increase in passenger car speeds in the last year are difficult to analyze. This may again be due to an observer's inadequacy or may be the beginning of a stabilizing trend in the previously slowly increasing speeds. Future observations will have to be closely watched to decide if a trend has been established.

A comparison of the observed and allowable speed of the heavy trucks, produces the following information:

Type	85th percentile speed	Speed limit	% traveling at less than the speed limit	% traveling at speeds greater than the limit
Interstate	56.8	55	72.8	27.2
Four-lane	53.4	55	90.1	9.9
Two-lane	53.1	50	68.1	31.9

From this it can be seen that approximately 30% of the heavy trucks are speeding on Interstate and two-lane facilities. However, further analysis will show that on Interstate facilities approximately half the speeders are in excess by less than 2 mph and on the two-lane facilities approximately half the speeders are in excess by less than 3 mph. This would seem to indicate that the problem is not as severe as the tabulated values may suggest.

Of particular interest is the similarity in characteristics between travel on four-lane and interstate facilities. The mean-speeds, 85th percentile and 15th percentile speeds for both facilities are practically the same. This is probably accounted for by the fact that the four-lane highways observation stations are so located as to present similar roadway conditions to those found in the interstate system - that is, good shoulder; wide medians; little access friction.

Recommendations

It is recommended that the general procedure of using four stations of each type facility and a sample size of 215 passenger cars and 35 trucks be continued. However, it is further recommended that certain specific refinements be made to allow a better comparison of consecutive yearly data. These are as follows:

1) A better system of identification of each of the observation sites to guarantee use of the same site each year.

2) The simultaneous recording of a volume count at the observation site to compare speed variations and the change in volumes at the times of observation.

TABLE 1 SPEED DATA

Station 1 Highway I-80 Location 0.7 mi E of SR 912

No. of Lanes 4 Type of Surface PCC Weather Clear

This Observation — Date June 10, 1963; Time 10:45 - 12:00 a.m.

Last Previous Observation (Speed Report No. 75) — Date July 16, 1962; Time 11:15 - 11:45 a.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.	230	250	121	111	109	139	61	50	10	12	51	38
	Average speed (m.p.h.)	55.0	56.8	53.7	55.4	56.4	58.0	50.3	50.6	52.5	51.4	49.8	50.4
	Standard deviation	5.90	5.39	5.97	5.83	5.54	4.72	6.11	4.51	9.84	5.47	5.13	4.22
	% of vehicles traveling at or less than 24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	2.0	0.0
	34 m.p.h.	0.4	0.0	0.8	0.0	0.0	0.0	3.3	0.0	10.0	0.0	2.0	0.0
	39 m.p.h.	0.9	0.0	1.7	0.0	0.0	0.0	3.3	0.0	10.0	0.0	2.0	0.0
	44 m.p.h.	4.3	2.0	6.6	2.7	1.8	1.4	9.8	14.0	10.0	16.7	9.8	13.2
	49 m.p.h.	15.2	10.8	19.8	19.9	10.1	3.6	39.4	36.0	40.0	25.0	39.2	39.5
	54 m.p.h.	43.4	31.6	52.9	43.6	33.0	22.3	82.0	86.0	50.0	75.0	88.2	89.5
	59 m.p.h.	80.4	66.8	86.7	76.3	73.4	59.7	96.6	96.0	80.0	91.7	100.0	97.4
	64 m.p.h.	95.7	95.2	97.4	97.2	93.6	94.2	98.4	100.0	90.0	100.0	—	100.0
	69 m.p.h.	99.5	100.0	100.0	100.0	99.1	100.0	100.0	---	100.0	---	—	---
	74 m.p.h.	100.0	---	—	---	100.0	---	—	---	—	---	—	---
	79 m.p.h.	—	---	—	---	—	---	—	---	—	---	—	---
	84 m.p.h.	—	---	—	---	--	---	--	---	—	---	—	---
	89 m.p.h.	--	---	--	---	—	---	—	---	—	---	—	---
E Bound	No. of vehicles obs.	116	123	57	57	59	66	30	26	4	6	26	20
	Average speed	56.3	56.8	55.6	55.6	56.9	57.8	51.8	51.1	59.5	50.0	50.7	51.4
W Bound	No. of vehicles obs.	114	127	64	54	50	73	31	24	6	6	25	18
	Average speed	53.7	56.9	52.0	55.2	55.9	58.1	48.8	50.1	47.8	52.8	49.0	49.2

TABLE 2 SPEED DATA

Station 2 Highway I-65 Location 1.0 North of SR 334

No. of Lanes 4 Type of Surface PCC Weather Clear

This Observation — Date June 11, 1963 — Time 1:10 - 2:45 p.m.

Last Previous Observation (Speed Report No. 75) — Date August 13, 1962 — Time 11:00 a.m. - 12:30 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.	226	224	132	135	94	89	64	47	12	18	52	29
	Average speed (m.p.h.)	61.3	61.8	60.8	61.0	62.0	63.2	54.0	53.4	57.4	56.6	53.3	51.5
	Standard deviation	6.75	5.94	6.97	6.28	6.40	5.13	6.03	5.91	8.38	4.64	5.14	5.85
	% of vehicles traveling at or less than 24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.	0.4	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	44 m.p.h.	1.3	0.5	1.5	0.7	1.1	0.0	3.1	6.4	0.0	0.0	3.8	10.3
	49 m.p.h.	3.5	3.1	4.5	8.9	2.1	0.0	21.9	27.6	25.0	11.1	21.2	37.9
	54 m.p.h.	13.3	8.9	17.4	12.6	7.5	3.4	56.3	53.2	33.4	33.3	61.5	65.5
	59 m.p.h.	38.5	32.6	40.9	37.8	35.1	24.7	86.0	82.9	66.7	72.2	90.4	89.6
	64 m.p.h.	69.8	69.6	73.5	75.6	65.0	60.7	93.8	100.0	75.0	100.0	98.0	100.0
	69 m.p.h.	90.2	89.7	90.1	92.6	90.4	88.8	98.5	---	91.7	---	100.0	---
	74 m.p.h.	98.2	98.2	97.7	98.5	99.0	98.9	100.0	---	100.0	---	—	---
	79 m.p.h.	99.1	100.0	99.2	100.0	99.0	100.0	—	---	—	---	—	---
	84 m.p.h.	100.0	---	100.0	---	100.0	---	—	---	—	---	—	---
	89 m.p.h.	—	---	—	---	—	---	—		—	---	—	---
N Bound	No. of vehicles obs.	116	116	69	74	47	42	38	26	4	7	34	19
	Average speed	60.3	60.5	60.0	59.6	60.8	62.1	53.6	57.3	58.3	57.3	53.0	51.3
S Bound	No. of vehicles obs.	110	108	63	61	47	47	26	21	8	11	18	10
	Average speed	62.3	63.3	61.6	62.6	63.2	64.2	54.7	54.1	57.0	56.1	53.7	51.9

TABLE 3 SPEED DATA

Station 3 Highway I-74 Location 1.0 mi E Post Road

No. of Lanes 4 Type of Surface PCC Weather Clear

This Observation — Date June 11, 1963 — Time 9:55 a.m. - 12:15 p.m.

Last Previous Observation (Speed Report No. 75) — Date August 5, 1963 — Time 11:00 a.m. - 1:00 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.	221	227	183	188	38	39	66	55	12	22	54	33
	Average speed (m.p.h.)	55.2	60.2	58.9	59.8	60.6	62.2	53.3	53.2	57.0	56.4	52.5	51.0
	Standard deviation	6.62	5.74	6.77	5.57	5.80	6.16	7.56	5.30	8.25	5.09	7.22	4.29
	% of vehicles traveling at or less than: 24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.8	0.0
	44 m.p.h.	1.8	0.9	2.2	1.0	0.0	0.0	15.1	7.3	16.7	0.0	14.8	12.1
	49 m.p.h.	8.1	3.9	8.7	4.3	5.3	2.5	31.8	25.4	16.7	9.1	35.1	36.4
	54 m.p.h.	22.1	14.5	24.0	14.9	13.1	12.8	54.5	52.7	25.0	31.8	61.1	66.7
	59 m.p.h.	49.3	40.5	52.5	42.5	34.2	30.8	78.8	90.9	58.4	77.3	83.3	100.0
	64 m.p.h.	80.0	80.2	79.8	82.9	81.5	66.7	92.5	96.4	83.4	90.9	94.4	---
	69 m.p.h.	95.0	96.5	94.5	97.3	97.4	92.3	100.0	100.0	100.0	100.0	100.0	---
	74 m.p.h.	99.5	98.2	100.0	98.9	97.4	94.9	—	---	—	---	—	---
	79 m.p.h.	100.0	100.0	—	100.0	100.0	100.0	—	---	—	---	—	---
	84 m.p.h.	—	---	—	---	—	---	—	---	—	---	—	---
	89 m.p.h.	—	---	—	---	—	---	—	---	—	---	—	---
E Bound	No. of vehicles obs.	112	113	92	96	20	17	33	34	7	15	26	19
	Average speed	59.4	60.7	59.0	60.2	61.0	63.7	54.7	54.4	57.7	57.5	53.9	51.9
W Bound	No. of vehicles obs.	109	114	91	92	18	22	33	21	5	7	28	14
	Average speed	59.0	59.7	58.8	59.4	60.1	61.0	51.8	51.2	56.0	54.1	51.1	49.7

TABLE 4 SPEED DATA

Station 4 Highway I-65 Location 2.9 mile N of SR 160

No. of Lanes 4 Type of Surface PCC Weather Clear

This Observation — Date June 13, 1963 — Time 11:30 a.m. - 1:45 p.m.

Last Previous Observation (Speed Report No. 75) — Date August 23, 1962 — Time 2:30 - 4:20 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.	231	254	125	116	106	138	92	47	11	11	81	36
	Average speed (m.p.h.)	60.0	62.6	60.9	62.3	58.9	62.8	54.4	53.4	55.6	54.7	54.3	53.0
	Standard deviation	6.32	5.65	6.15	6.40	6.38	4.96	5.58	4.63	5.96	5.12	5.44	4.47
	% of vehicles traveling at or less than 24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	44 m.p.h.	0.9	0.0	0.0	0.0	1.9	0.0	2.2	2.1	0.0	0.0	2.4	2.7
	49 m.p.h.	4.3	1.2	2.4	1.7	6.6	1.0	18.5	19.1	9.0	9.1	19.7	22.2
	54 m.p.h.	17.7	8.3	15.2	12.1	20.8	5.1	51.1	63.8	54.5	54.5	50.6	66.7
	59 m.p.h.	48.9	25.9	42.4	31.0	56.6	21.7	83.7	87.2	72.7	72.7	85.2	91.7
	64 m.p.h.	75.7	65.4	70.5	62.9	82.0	67.4	95.6	100.0	90.9	100.0	96.3	100.0
	69 m.p.h.	93.5	88.9	92.8	85.3	94.3	92.0	100.0	---	100.0	---	100.0	---
	74 m.p.h.	99.6	98.4	99.2	98.3	100.0	98.6	---	---	---	---	---	---
	79 m.p.h.	100.0	100.0	100.0	100.0	---	100.0	---	---	---	---	---	---
	84 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	---
	89 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	---
N Bound	No. of vehicles obs.	114	146	56	61	58	85	46	26	5	7	41	19
	Average speed	60.3	62.0	59.8	61.2	60.9	62.5	53.7	52.9	54.0	53.9	53.7	52.5
S Bound	No. of vehicles obs.	117	108	69	55	48	53	46	21	6	4	40	17
	Average speed	59.6	63.4	61.8	63.6	56.5	63.2	55.2	54.1	57.0	56.2	54.9	53.6

TABLE 5 SPEED DATA

Station 5 Highway U.S. 31 Location 1.2 mile South of SR 38

No. of Lanes 4 Type of Surface AC Weather Partly Cloudy

This Observation — Date June 6, 1963 — Time 2:50 - 4:45 p.m.

Last Previous Observation (Speed Report No. ____) — Date July 12, 1963 — Time 1:00 - 2:00 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.	232	244	190	217	42	27	47	48	9	30	38	18
	Average speed (m.p.h.)	60.6	61.0	60.3	60.9	62.0	61.4	52.3	54.4	56.4	56.7	51.3	50.6
	Standard deviation	6.31	6.39	6.38	6.37	5.85	6.65	6.63	7.08	8.45	7.78	5.84	3.26
	% of vehicles traveling at or less than 24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	44 m.p.h.	0.4	1.2	0.5	0.9	0.0	3.7	10.6	2.1	11.1	3.3	10.5	0.0
	49 m.p.h.	3.9	4.5	4.7	4.6	0.0	3.7	36.1	29.2	22.2	19.9	39.4	44.4
	54 m.p.h.	17.2	12.7	17.9	12.9	14.3	11.1	66.0	58.3	33.3	39.9	73.7	88.9
	59 m.p.h.	40.9	40.6	43.2	42.8	30.9	22.2	87.2	72.9	66.6	59.9	92.1	94.9
	64 m.p.h.	72.0	73.8	74.2	73.3	61.9	77.8	93.5	87.5	77.7	79.9	97.4	100.0
	69 m.p.h.	93.1	92.2	93.1	91.7	92.8	96.3	100.0	97.9	100.0	96.7	100.0	---
	74 m.p.h.	99.6	98.4	99.4	98.6	100.0	96.3	---	100.0	---	100.0	---	---
	79 m.p.h.	100.0	99.6	100.0	99.5	---	100.0	---	---	---	---	---	---
	84 m.p.h.	---	100.0	---	100.0	---	---	---	---	---	---	---	---
	89 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	
N Bound	No. of vehicles obs.	112	109	92	98	20	11	19	17	4	15	15	2
	Average speed	60.2	62.8	59.8	62.5	61.8	65.0	53.8	58.1	60.8	58.5	52.0	55.5
S Bound	No. of vehicles obs.	120	135	98	119	22	16	28	31	5	15	23	16
	Average speed	61.1	59.6	60.8	59.7	62.2	58.9	51.3	52.4	53.0	54.9	50.9	50.0

TABLE 6 SPEED DATA

Station 6 Highway U. S. 52 Location 1.0 mile South of S. Jct. S. R. 28

No. of Lanes 4 Type of Surface AC Weather

This Observation		Last Previous Observation (Speed Report No.)	
Date	June 11, 1963	Date	July 25, 1962
Time	3:25 - 4:45 p.m.	Time	3:00 - 4:00 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.	221	231	141	145	80	86	64	48	11	18	53	30
	Average speed (m.p.h.)	59.9	61.5	59.6	61.2	60.4	62.1	51.0	51.9	52.9	58.1	50.6	48.2
	Standard deviation	6.68	5.54	6.85	5.50	6.34	5.58	6.25	6.32	6.64	5.22	6.15	3.32
	% of vehicles traveling at or less than 24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.4	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.	0.4	0.0	0.7	0.0	0.0	0.0	3.1	0.0	0.0	0.0	3.8	0.0
	44 m.p.h.	1.8	0.4	2.1	1.0	1.3	0.0	14.1	10.4	9.0	0.0	15.1	16.7
	49 m.p.h.	5.0	2.6	5.7	3.4	3.8	1.1	43.8	37.5	36.4	5.5	45.3	56.7
	54 m.p.h.	17.6	9.5	17.7	10.3	17.5	8.1	67.2	68.7	54.5	16.7	69.8	100.0
	59 m.p.h.	46.6	33.3	50.4	34.5	40.0	31.4	92.2	87.5	81.8	66.7	94.3	---
	64 m.p.h.	78.7	72.7	80.2	72.4	76.3	73.3	100.0	95.8	100.0	88.8	100.0	---
	69 m.p.h.	93.7	93.1	93.6	94.5	93.8	90.7	---	100.0	---	100.0	---	---
	74 m.p.h.	98.7	98.7	97.9	99.3	98.8	97.7	---	---	---	---	---	---
	79 m.p.h.	100.0	100.0	100.0	100.0	100.0	100.0	---	---	---	---	---	---
	84 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	---
	89 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	---
N Bound	No. of vehicles obs.	101	117	61	70	40	47	32	29	7	11	25	18
	Average speed	60.3	62.1	59.6	61.5	61.3	63.0	51.4	52.8	53.4	59.4	50.8	48.8
S Bound	No. of vehicles obs.	120	114	80	75	40	39	32	19	4	7	28	12
	Average speed	59.5	61.0	59.5	61.0	59.6	60.9	50.6	50.5	52.0	56.0	50.4	47.3

TABLE 7 SPEED DATA

Station 7 Highway U.S. 41 Location 1 mile North of S Jct S.R. 2

No. of Lanes 4 Type of Surface PCC Weather Cloudy

This Observation — Date June 10, 1963; Time 12:45 - 3:00 p.m.

Last Previous Observation (Speed Report No. ____) — Date July 16, 1962; Time 2:00 - 3:00 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.	226	244	100	110	126	134	50	53	7	21	43	32
	Average speed (m.p.h.)	58.9	60.5	59.3	60.3	58.5	60.7	52.6	52.1	57.0	52.9	51.9	51.5
	Standard deviation	7.01	5.77	6.76	6.36	7.25	5.26	5.12	5.11	5.00	6.46	4.81	4.01
	% of vehicles traveling at or less than 24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	39 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	44 m.p.h.	1.8	0.4	3.0	0.9	0.8	0.0	4.0	9.4	0.0	9.5	4.7	9.4
	49 m.p.h.	8.0	3.3	5.0	3.6	10.3	2.9	30.0	24.5	0.0	33.3	34.9	18.7
	54 m.p.h.	27.4	13.1	22.0	16.4	31.8	10.4	60.0	69.8	28.6	61.9	65.1	75.0
	59 m.p.h.	53.5	38.9	52.0	40.9	54.8	37.3	96.0	90.6	85.7	76.2	97.6	100.0
	64 m.p.h.	80.0	77.0	80.0	75.5	80.1	78.3	98.0	98.1	85.7	95.2	100.0	---
	69 m.p.h.	93.8	93.8	95.0	91.8	92.8	95.5	100.0	100.0	100.0	100.0	---	---
	74 m.p.h.	98.7	99.6	99.0	100.0	98.4	99.2	---	---	---	---	---	---
	79 m.p.h.	99.6	100.0	99.0	---	100.0	100.0	---	---	---	---	---	---
	84 m.p.h.	100.0	---	100.0	---	---	---	---	---	---	---	---	---
	89 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	---
N Bound	No. of vehicles obs.	114	118	55	64	59	54	25	26	5	13	20	13
	Average speed	57.5	61.5	57.5	61.0	57.5	62.1	52.2	53.1	57.0	54.4	51.0	51.8
S Bound	No. of vehicles obs.	112	126	45	46	67	80	25	27	2	8	23	19
	Average speed	60.2	59.6	61.3	59.4	59.5	59.7	53.0	51.1	57.0	50.5	52.7	51.3

TABLE 8 SPEED DATA

Station 8 Highway U.S. 52 Location 1 mile N. of Klondyke

No. of Lanes 4 Type of Surface PCC Weather Clear

This Observation — Date June 6, 1963 — Time 10:30 a.m. - 12:35 p.m.

Last Previous Observation (Speed Report No. 75) — Date July 3, 1962 — Time 2:45 - 4:00 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.	226	235	144	107	82	128	47	45	10	14	37	31
	Average speed (m.p.h.)	57.6	58.7	57.3	58.1	58.0	59.2	51.9	46.6	53.5	50.2	51.5	45.0
	Standard deviation	6.34	5.84	6.55	5.89	5.97	5.77	6.03	7.94	7.83	9.71	5.50	6.54
	% of vehicles traveling at or less than 24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	7.1	0.0	12.9
	39 m.p.h.	0.4	0.0	0.7	0.0	0.0	0.0	0.0	19.9	0.0	21.4	0.0	19.3
	44 m.p.h.	3.5	1.3	3.5	0.9	3.7	1.6	8.0	33.3	10	21.4	8.1	38.7
	49 m.p.h.	9.7	5.1	11.1	3.7	7.3	6.3	36.2	55.5	30.	28.6	37.8	67.7
	54 m.p.h.	25.7	25.9	28.5	29.9	20.7	22.7	72.4	84.4	70	57.1	72.9	96.8
	59 m.p.h.	63.3	49.8	64.0	59.8	62.2	41.4	89.4	100.0	70	100.0	94.5	100.0
	64 m.p.h.	87.5	85.9	88.2	86.9	86.5	85.2	95.7	---	90	---	97.3	---
	69 m.p.h.	98.2	97.4	97.9	96.3	98.8	98.4	100.0	---	100.0	---	100.0	---
	74 m.p.h.	99.6	100.0	99.4	100.0	100.0	100.0	---	---	---	---	---	---
	79 m.p.h.	100.0	---	100.0	---	---	---	---	---	---	---	---	---
	84 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	---
	89 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	---
N Bound	No. of vehicles obs.	114	103	70	49	44	54	22	18	6	6	16	12
	Average speed	57.4	56.3	57.6	56.2	57.1	56.4	51.3	44.5	57.0	47.2	49.2	43.1
S Bound	No. of vehicles obs.	112	132	74	58	38	74	25	27	4	8	21	19
	Average speed	57.8	60.5	57.1	59.7	59.1	61.2	52.4	48.1	48.3	52.5	53.2	46.2

TABLE 9 SPEED DATA

Station 9 Highway U.S. 41 Location 1.0 miles North of Boswell

No. of Lanes 2 Type of Surface PCC Weather

This Observation — Date June 13, 1963 — Time 11:45 a.m. - 2:00 p.m.

Last Previous Observation (Speed Report No. 75) — Date July 12, 1962 — Time 9:30 - 11:30 a.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.	224	229	124	109	100	120	75	45	17	15	58	30
	Average speed (m.p.h.)	56.8	55.9	57.3	55.2	56.3	56.6	50.2	49.6	52.9	50.9	49.4	49.0
	Standard deviation	7.22	6.06	7.46	5.83	6.90	6.21	7.65	5.37	10.79	6.08	6.37	4.98
	% of vehicles traveling at or less than 24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	5.8	0.0	1.7	0.0
	34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	5.8	0.0	3.4	0.0
	39 m.p.h.	0.9	0.4	0.0	0.9	2.0	0.0	6.7	0.0	5.8	0.0	6.9	0.0
	44 m.p.h.	4.0	5.2	4.0	4.6	4.0	5.8	16.0	19.9	23.5	20.0	13.8	19.9
	49 m.p.h.	14.3	13.9	14.5	14.7	14.0	13.3	42.7	55.6	29.4	46.7	46.6	59.9
	54 m.p.h.	35.3	39.3	33.9	45.9	37.0	33.3	74.7	79.9	52.9	66.7	81.0	86.7
	59 m.p.h.	67.9	67.2	64.5	71.6	72.0	63.3	93.3	95.6	76.5	93.3	98.3	96.7
	64 m.p.h.	86.6	93.4	83.9	94.5	90.0	92.5	97.3	100.0	88.2	100.0	100.0	100.0
	69 m.p.h.	95.1	100.0	94.4	100.0	96.0	100.0	98.7	---	94.1	---	---	---
	74 m.p.h.	99.1	---	98.4	---	100.0	---	100.0	---	100.0	---	---	---
	79 m.p.h.	100.0	---	100.0	---	---	---	---	---	---	---	---	---
	84 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	---
	89 m.p.h.	---		---	---	---	---	---	---	---	---	---	---
N Bound	No. of vehicles obs.	114	120	55	57	59	63	36	20	6	6	30	14
	Average speed	55.9	54.1	56.1	53.3	55.6	54.9	48.7	48.7	52.7	51.3	47.8	47.6
S Bound	No. of vehicles obs.	110	109	69	52	41	57	39	25	11	9	28	16
	Average speed	57.9	57.9	58.3	57.3	57.1	58.5	51.6	50.3	52.9	50.6	51.1	50.2

TABLE 10 SPEED DATA

Station 10 Highway U.S. 52 Location 2 miles N of Templeton

No. of Lanes 2 Type of Surface AC Weather

This Observation — Date June 14, 1963 — Time 9:40 - 11:20 a.m.

Last Previous Observation (Speed Report No. 75) — Date July 11, 1962 — Time 2:30 - 4:00 p.m.

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.	221	221	94	90	127	131	63	47	12	9	51	38
	Average speed (m.p.h.)	57.4	58.5	57.5	58.1	57.4	58.7	50.7	46.6	51.6	50.7	50.4	45.7
	Standard deviation	5.95	5.83	5.92	5.11	6.00	6.29	5.90	5.13	7.82	6.36	5.43	4.36
	% of vehicles traveling at or less than 24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34 m.p.h.	0.0	0.5	0.0	0.0	0.0	0.8	1.6	0.0	0.0	0.0	2.0	0.0
	39 m.p.h.	0.0	0.5	0.0	0.0	0.0	0.8	1.6	4.3	0.0	0.0	2.0	2.6
	44 m.p.h.	0.5	0.9	0.0	0.0	0.8	1.5	11.1	36.2	16.6	11.1	9.8	42.1
	49 m.p.h.	7.2	5.4	8.5	3.3	6.3	6.9	42.8	78.7	50.0	55.6	41.2	84.2
	54 m.p.h.	33.0	21.6	30.8	21.9	34.6	21.4	77.7	93.6	66.7	77.8	80.4	97.4
	59 m.p.h.	65.2	54.5	64.9	60.4	65.4	50.4	93.6	97.9	83.3	88.9	96.1	100.0
	64 m.p.h.	88.7	88.3	89.4	91.2	88.2	86.3	98.5	100.0	91.6	88.9	100.0	---
	69 m.p.h.	96.8	97.3	96.8	97.8	96.9	96.9	100.0	---	100.0	100.0	---	---
	74 m.p.h.	100.0	100.0	100.0	100.0	100.0	100.0	---	---	---	---	---	---
	79 m.p.h.	---		---	---	---		---	---	---	---	---	---
	84 m.p.h.	---		---	---	---		---	---	---	---	---	---
	89 m.p.h.	---		---	---	---		---	---	---	---	---	---
N Bound	No. of vehicles obs.	130	115	52	49	78	66	31	25	8	3	23	22
	Average speed	57.4	57.6	57.6	57.9	57.3	57.4	50.1	44.7	51.4	46.0	49.6	44.5
S Bound	No. of vehicles obs.	91	106	42	41	49	65	32	22	4	6	28	16
	Average speed	57.5	59.4	57.4	58.3	57.6	60.1	51.2	48.8	52.0	53.0	51.1	47.2

TABLE 11 SPEED DATA

Station 11 Highway U. S. 31 Location 3 miles South of Rochester

No. of Lanes 2 Type of Surface AC Weather Clear

This Observation — Date June 7, 1963 — Time 12:00 - 2:35 p.m.

Last Previous Observation (Speed Report No. 75) — Date July 20, 1962 — Time 11:00 a.m. - 12:15 p.m.

			PASSENGER CARS						TRUCKS					
			All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
	OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.		231	241	170	183	61	58	43	52	8	22	35	30
	Average speed (m.p.h.)		58.6	56.5	57.9	56.3	60.7	57.0	51.0	50.8	55.1	52.3	50.0	49.7
	Standard deviation		7.25	5.43	7.17	5.48	7.12	5.29	6.23	5.14	7.99	5.75	5.45	4.44
	% of vehicles traveling at or less than	24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		39 m.p.h.	0.0	0.4	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		44 m.p.h.	1.3	2.5	1.2	2.7	1.6	1.7	20.9	13.5	12.5	18.2	22.8	10.0
		49 m.p.h.	9.5	9.1	11.2	9.8	4.9	6.9	37.2	46.2	25.0	27.3	40.0	60.0
		54 m.p.h.	28.6	31.9	31.8	33.3	19.7	27.6	69.7	78.8	37.5	72.7	77.2	83.3
		59 m.p.h.	56.3	71.4	61.2	73.2	42.7	65.6	95.4	94.2	75.0	90.9	100.0	96.7
		64 m.p.h.	80.1	95.9	84.7	96.2	67.2	94.8	97.7	98.1	87.5	95.5	---	100.0
		69 m.p.h.	94.8	99.6	95.3	99.5	93.5	100.0	100.0	100.0	100.0	100.0	---	---
		74 m.p.h.	97.4	99.6	97.6	100.0	96.7	---	---	---	---	---	---	---
		79 m.p.h.	99.5	100.0	99.4	---	100.0	---	---	---	---	---	---	---
		84 m.p.h.	99.5	---	99.4	---	---	---	---	---	---	---	---	---
		89 m.p.h.	100.0	---	100.0	---	---	---	---	---	---	---	---	---
N Bound	No. of vehicles obs.		110	142	82	106	28	36	19	28	2	15	17	13
	Average speed		58.8	56.5	57.2	56.3	63.4	57.0	51.2	51.7	62.0	53.3	49.9	49.9
S Bound	No. of vehicles obs.		121	99	88	77	33	22	24	24	6	7	18	17
	Average speed		58.5	56.5	58.6	56.3	58.4	57.0	50.8	49.7	53.8	50.1	50.1	49.6

TABLE 12 SPEED DATA

Station 12 Highway SR 25 Location 0.7 miles S. of Americus

No. of Lanes 2 Type of Surface AC Weather Clear

This Observation — Date June 12, 1963 — Time 2:50 - 4:30 p.m.

Last Previous Observation (Speed Report No. 75) — Date July 25, 1962 — Time 11:00 a.m. - 12:30 p.m.

			PASSENGER CARS						TRUCKS					
			All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION			Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.		229	241	189	225	40	16	56	51	12	33	44	18
	Average speed (m.p.h.)		55.1	57.9	54.9	57.7	55.9	60.8	48.6	51.5	53.7	53.4	47.2	48.0
	Standard deviation		6.94	6.63	7.03	6.71	6.45	4.79	7.32	6.72	7.18	6.50	6.82	5.76
	% of vehicles traveling at or less than	24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	2.3	0.0
		39 m.p.h.	0.4	0.4	0.5	0.4	0.0	0.0	14.3	3.9	8.3	3.0	15.9	5.6
		44 m.p.h.	6.1	1.7	6.9	1.8	2.5	0.0	26.8	19.6	8.3	24.2	31.8	38.9
		49 m.p.h.	20.5	9.9	21.6	10.7	15.0	0.0	53.5	37.3	25.0	39.4	61.3	61.1
		54 m.p.h.	48.0	32.8	48.6	34.2	45.0	12.5	76.8	64.7	41.7	69.7	86.4	83.3
		59 m.p.h.	75.1	56.4	75.6	57.8	72.5	37.5	94.5	88.2	83.3	87.9	97.2	100.0
		64 m.p.h.	90.4	85.5	90.8	85.3	87.5	87.5	100.0	96.1	100.0	93.9	100.0	---
		69 m.p.h.	98.7	95.4	98.3	95.6	100.0	93.8	---	100.0	---	100.0	---	---
		74 m.p.h.	99.6	99.6	99.4	99.6	---	100.0	---	---	---	---	---	---
		79 m.p.h.	100.0	99.6	100.0	99.6	---	---	---	---	---	---	---	---
		84 m.p.h.	---	100.0	---	100.0	---	---	---	---	---	---	---	---
		89 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	---
E Bound	No. of vehicles obs.		100	127	87	117	13	10	27	25	3	21	24	4
	Average speed		55.0	58.2	54.2	57.9	60.1	61.2	47.7	54.1	48.7	54.7	47.6	51.0
W Bound	No. of vehicles obs.		129	114	102	108	27	6	29	26	9	12	20	14
	Average speed		55.1	57.6	55.4	57.5	53.9	60.2	49.4	49.0	55.3	51.2	46.8	47.1

TABLE 13 SPEED DATA

Station 1,2,3,4 Highway Interstate Location See individual stations

No. of Lanes 4 Type of Surface ____ Weather ____

This Observation — Date ____ Time ____

Last Previous Observation (Speed Report No. ____) — Date ____ Time ____

			PASSENGER CARS						TRUCKS					
			All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION			Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.		908	955	561	550	347	405	283	199	45	63	238	136
	Average speed (m.p.h.)		58.8	60.3	58.7	59.7	59.1	61.2	53.2	52.7	55.8	55.2	52.7	51.5
	Standard deviation		6.83	6.10	7.06	6.42	6.44	5.54	6.46	5.21	8.15	5.53	5.98	5.10
	% of vehicles traveling at or less than	24 m.p.h.	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
		29 m.p.h.	0.0	0.0	0.0		0.0		0.4	0.0	0.0	0.0	0.4	0.0
		34 m.p.h.	0.1	0.0	0.2		0.0		0.7	0.0	2.2	0.0	0.4	0.0
		39 m.p.h.	0.3	0.0	0.4	0.0	0.3	0.0	1.1	0.0	6.7	0.0	0.8	0.0
		44 m.p.h.	2.1	0.8	2.5	1.1	1.4	0.5	7.1	7.5	22.2	3.2	7.1	9.6
		49 m.p.h.	7.8	4.8	8.8	7.1	6.3	1.7	26.8	27.1	40.0	12.7	27.7	33.8
		54 m.p.h.	24.2	16.0	26.8	19.5	20.2	11.4	59.7	63.8	68.9	44.4	63.4	72.8
		59 m.p.h.	54.4	47.1	55.0	45.6	53.6	36.3	85.8	89.4	84.5	77.8	89.0	94.9
		64 m.p.h.	80.4	77.7	80.2	79.6	81.0	75.1	95.0	98.9	97.8	96.8	97.0	100.0
		69 m.p.h.	94.5	93.8	94.5	93.6	95.0	94.1	99.6	100.0	100.0	100.0	100.0	---
		74 m.p.h.	99.2	98.7	99.2	98.7	99.4	98.8	100.0	---	---	---	---	---
		79 m.p.h.	99.8	100.0	99.6	100.0	99.7	100.0	---	---	---	---	---	---
		84 m.p.h.	100.0	---	100.0	---	100.0	---	---	---	---	---	---	---
		89 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	---
Bound	No. of vehicles obs.		---	---	---	---	---	---	---	---	---	---	---	---
	Average speed		---	---	---	---	---	---	---	---	---	---	---	---
Bound	No. of vehicles obs.		---	---	---	---	---	---	---	---	---	---	---	---
	Average speed		---	---	---	---	---	---	---	---	---	---	---	---

TABLE 14 SPEED DATA

Station ~~5, 6, 7, 8~~ Highway ~~4 Lanes~~ Location See individual stations

No. of Lanes ~~4~~ Type of Surface ~~Concrete~~ Weather ~~Clear~~

This Observation — Date ~~8-31-49~~ Time ~~1:00 P.M.~~

Last Previous Observation (Speed Report No. ~~13~~) — Date ~~8-30-49~~ Time ~~1:00 P.M.~~

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.	905	955	575	579	330	376	208	194	37	83	171	111
	Average speed (m.p.h.)	59.2	60.5	59.2	60.4	59.3	60.6	51.9	51.3	54.7	55.0	51.3	48.6
	Standard deviation	6.69	6.02	6.70	6.16	6.68	5.81	6.03	7.15	7.13	5.07	5.60	5.26
	% of vehicles traveling at or less than 24 m.p.h.	0.0		0.0		0.0		0.0		0.0		0.0	
	29 m.p.h.	0.0		0.0		0.0		0.0		0.0		0.0	
	34 m.p.h.	0.1		0.2		0.0		0.0	2.6	0.0	1.2	0.0	3.6
	39 m.p.h.	0.2	0.0	0.3	0.0	0.0	0.0	1.0	4.6	0.0	3.6	1.2	5.4
	44 m.p.h.	1.9	0.8	2.1	0.9	1.5	0.8	9.6	13.4	8.1	7.2	9.9	18.0
	49 m.p.h.	6.6	3.9	6.6	3.9	6.7	3.7	37.0	36.1	24.3	21.7	39.8	46.8
	54 m.p.h.	22.0	15.3	21.2	16.1	23.3	14.1	66.4	70.1	48.6	43.4	70.2	90.1
	59 m.p.h.	51.0	40.7	51.6	43.5	50.0	36.3	91.4	87.6	75.6	72.3	94.8	99.1
	64 m.p.h.	79.6	77.4	80.2	76.0	78.5	79.5	97.0	95.4	89.3	89.2	98.9	100.0
	69 m.p.h.	94.3	94.1	94.8	93.3	94.5	95.5	100.0	99.5	100.0	98.8	100.0	---
	74 m.p.h.	99.1	99.2	99.0	99.3	99.1	98.9	---	100.0	---	100.0	---	---
	79 m.p.h.	99.9	99.9	99.8	99.8	100.0	100.0	---	---	---	---	---	---
	84 m.p.h.	100.0	100.0	100.0	100.0	---	---	---	---	---	---	---	---
	89 m.p.h.	---	---	---	---	---	---	---	---	---	---	---	---
Bound	No. of vehicles obs.	---	---	---	---	---	---	---	---	---	---	---	---
	Average speed	---	---	---	---	---	---	---	---	---	---	---	---
Bound	No. of vehicles obs.	---	---	---	---	---	---	---	---	---	---	---	---
	Average speed	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 15 SPEED DATA

Station 9, 10, 11, 11 Highway 2 Lanes Location See individual stations

No. of Lanes 2 Type of Surface Weather

This Observation — Date — Time

Last Previous Observation (Speed Report No.) — Date — Time

			PASSENGER CARS						TRUCKS					
			All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION			Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.		905	933	577	608	328	325	237	195	49	79	188	116
	Average speed (m.p.h.)		57.0	57.2	56.7	56.9	57.5	57.7	50.1	49.7	53.1	52.3	49.3	47.9
	Standard deviation		6.97	6.08	7.10	6.05	6.72	6.12	6.90	5.90	8.68	6.18	6.14	5.01
	% of vehicles traveling at or less than	24 m.p.h.	0.0		0.0		0.0		0.0		0.0		0.0	
		29 m.p.h.	0.0		0.0		0.0		0.8		2.0		0.5	
		34 m.p.h.	0.0	0.1	0.0		0.0	0.3	2.1		2.0		2.1	
		39 m.p.h.	0.3	0.4	0.2	0.5	0.6	0.3	5.9	2.1	4.1	1.3	6.4	2.6
		44 m.p.h.	3.0	2.6	3.5	2.3	2.1	3.1	18.1	22.1	16.3	13.9	18.6	27.6
		49 m.p.h.	12.9	9.6	14.9	10.0	9.5	8.9	44.3	53.8	32.6	32.9	47.3	68.1
		54 m.p.h.	36.2	31.5	37.6	34.2	33.8	26.5	75.0	79.0	51.0	64.6	81.4	88.8
		59 m.p.h.	66.1	62.5	67.3	65.3	64.0	57.2	94.0	93.8	79.5	82.3	97.9	98.3
		64 m.p.h.	86.4	90.8	87.3	91.1	84.8	90.2	98.3	98.5	91.8	96.2	100.0	100.0
		69 m.p.h.	96.4	98.1	96.5	97.9	96.4	98.5	99.5	100.0	98.0	100.0	---	---
		74 m.p.h.	99.0	99.8	98.9	99.7	99.5	100.0	100.0	---	100.0	---	---	---
		79 m.p.h.	99.9	99.9	99.8	99.8	100.0	---	---	---	---	---	---	---
		84 m.p.h.	99.9	100.0	99.8	100.0	---	---	---	---	---	---	---	---
		89 m.p.h.	100.0	---	100.0	---	---	---	---	---	---	---	---	---
Bound	No. of vehicles obs.		---	---	---	---	---	---	---	---	---	---	---	---
	Average speed		---	---	---	---	---	---	---	---	---	---	---	---
Bound	No. of vehicles obs.		---	---	---	---	---	---	---	---	---	---	---	---
	Average speed		---	---	---	---	---	---	---	---	---	---	---	---

TABLE 16 SPEED DATA

Station 1 thru 12 Highway All Systems Location See individual stations

No. of Lanes _____ Type of Surface _____ Weather _____

This Observation — Date _____ Time _____

Last Previous Observation (Speed Report No. _____) — Date _____ Time _____

			PASSENGER CARS						TRUCKS					
			All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION			Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All vehicles	No. of vehicles obs.		2718	2842	1713	1737	1005	1105	728	588	131	225	597	363
	Average speed (m.p.h.)		58.4	59.3	58.2	59.0	58.7	59.9	51.8	51.2	54.5	54.1	51.2	49.5
	Standard deviation		6.90	6.24	7.02	6.39	6.66	5.94	6.61	6.24	8.10	6.70	6.09	5.21
	% of vehicles traveling at or less than	24 m.p.h.	0.0		0.0		0.0		0.0		0.0		0.0	
		29 m.p.h.	0.0		0.0		0.0		0.4		0.8		0.3	
		34 m.p.h.	0.1	0.03	0.1		0.0	0.1	1.0	0.9	1.5	0.4	0.8	1.1
		39 m.p.h.	0.3	0.1	0.3	0.2	0.3	0.1	2.6	2.2	2.3	1.8	2.7	2.5
		44 m.p.h.	2.3	1.4	2.7	1.4	1.7	1.4	11.4	19.3	10.7	8.4	11.5	17.9
		49 m.p.h.	9.1	6.1	10.1	7.1	7.5	4.5	35.4	38.9	26.7	23.1	37.4	48.8
		54 m.p.h.	27.5	20.9	28.5	23.5	25.7	16.7	66.6	70.9	46.6	51.1	71.0	83.2
		59 m.p.h.	57.2	48.2	58.0	51.8	55.9	42.4	90.1	90.3	74.8	79.1	93.5	97.2
		64 m.p.h.	82.1	81.9	82.5	82.4	81.4	81.0	96.6	97.6	88.5	93.8	98.5	100.0
		69 m.p.h.	95.2	95.3	95.1	95.0	95.4	95.8	99.7	99.8	98.5	99.6	100.0	---
		74 m.p.h.	99.1	99.2	98.9	99.3	99.4	99.2	100.0	100.0	100.0	100.0	---	---
		79 m.p.h.	99.8	99.9	99.7	99.9	99.9	100.0	---	---	---	---	---	---
		84 m.p.h.	99.9	100.0	99.9	100.0	100.0	---	---	---	---	---	---	---
		89 m.p.h.	100.0	---	100.0	---	---	---	---	---	---	---	---	---
Bound	No. of vehicles obs.		---	---	---	---	---	---	---	---	---	---	---	---
	Average speed		---	---	---	---	---	---	---	---	---	---	---	---
Bound	No. of vehicles obs.		---	---	---	---	---	---	---	---	---	---	---	---
	Average speed		---	---	---	---	---	---	---	---	---	---	---	---

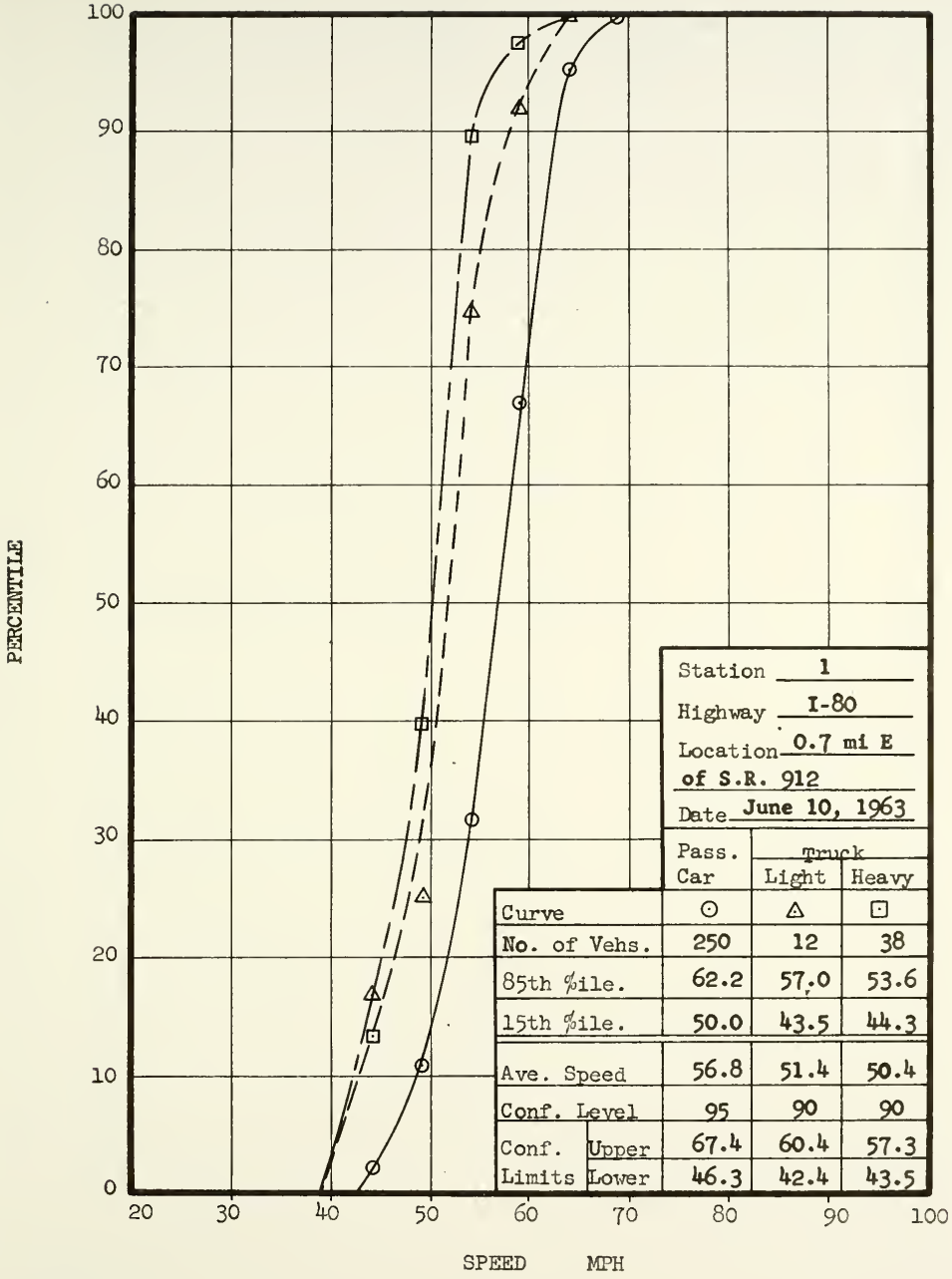

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 1
Highway I-80
Location 0.7 mi E of S.R. 912
Date June 10, 1963
Pass. Car
Truck
Light
Heavy
Curve ⊙ △ ⊡
No. of Vehs. 250 12 38
85th %ile. 62.2 57.0 53.6
15th %ile. 50.0 43.5 44.3
Ave. Speed 56.8 51.4 50.4
Conf. Level 95 90 90
Conf. Limits Upper 67.4 60.4 57.3
Lower 46.3 42.4 43.5

FIGURE 1

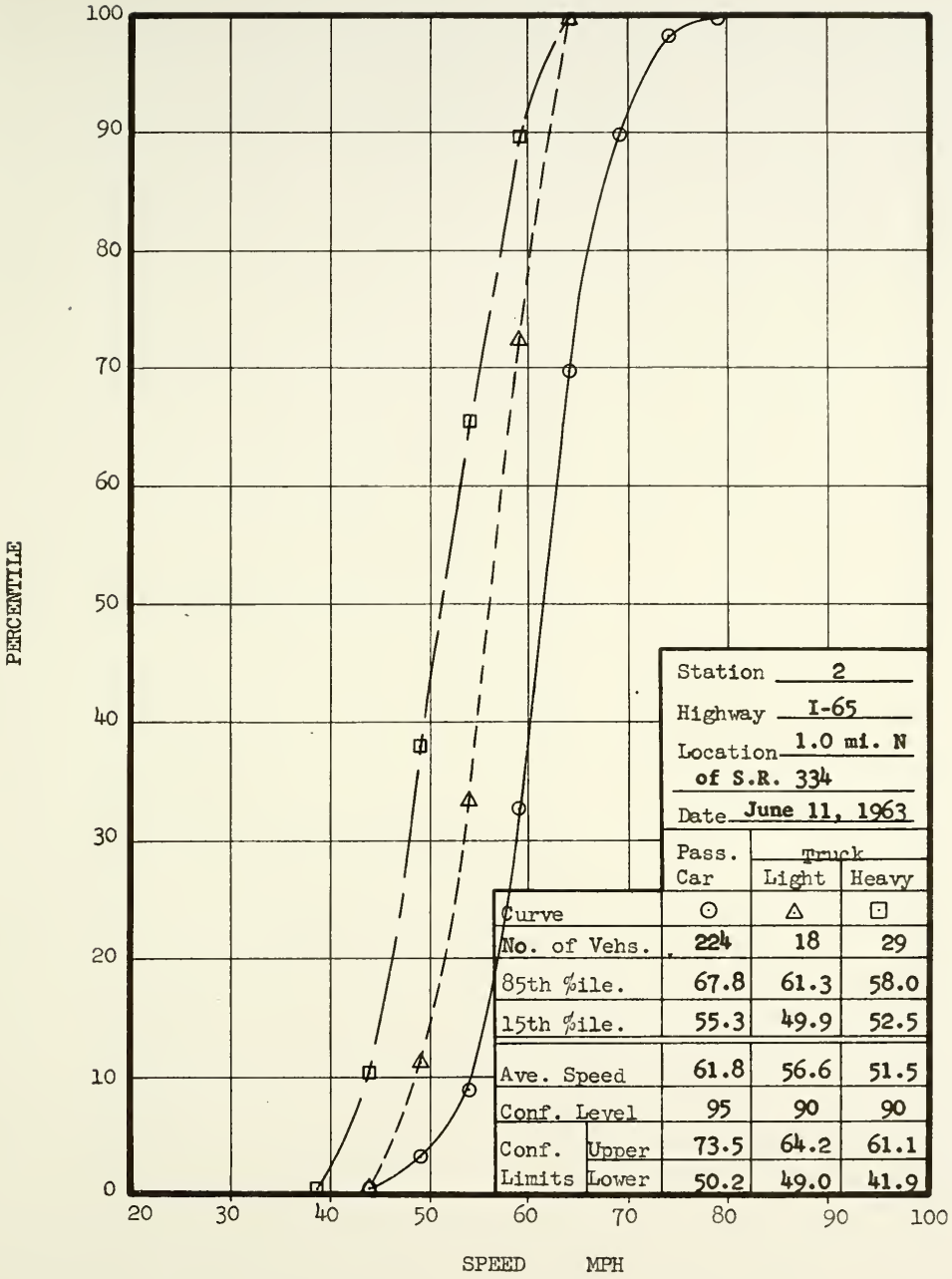

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 2
Highway I-65
Location 1.0 mi. N of S.R. 334
Date June 11, 1963
Pass. Car
Truck
Light
Heavy
Curve
No. of Vehs. 224 18 29
85th %ile. 67.8 61.3 58.0
15th %ile. 55.3 49.9 52.5
Ave. Speed 61.8 56.6 51.5
Conf. Level 95 90 90
Conf. Limits Upper 73.5 64.2 61.1
Lower 50.2 49.0 41.9

FIGURE 2

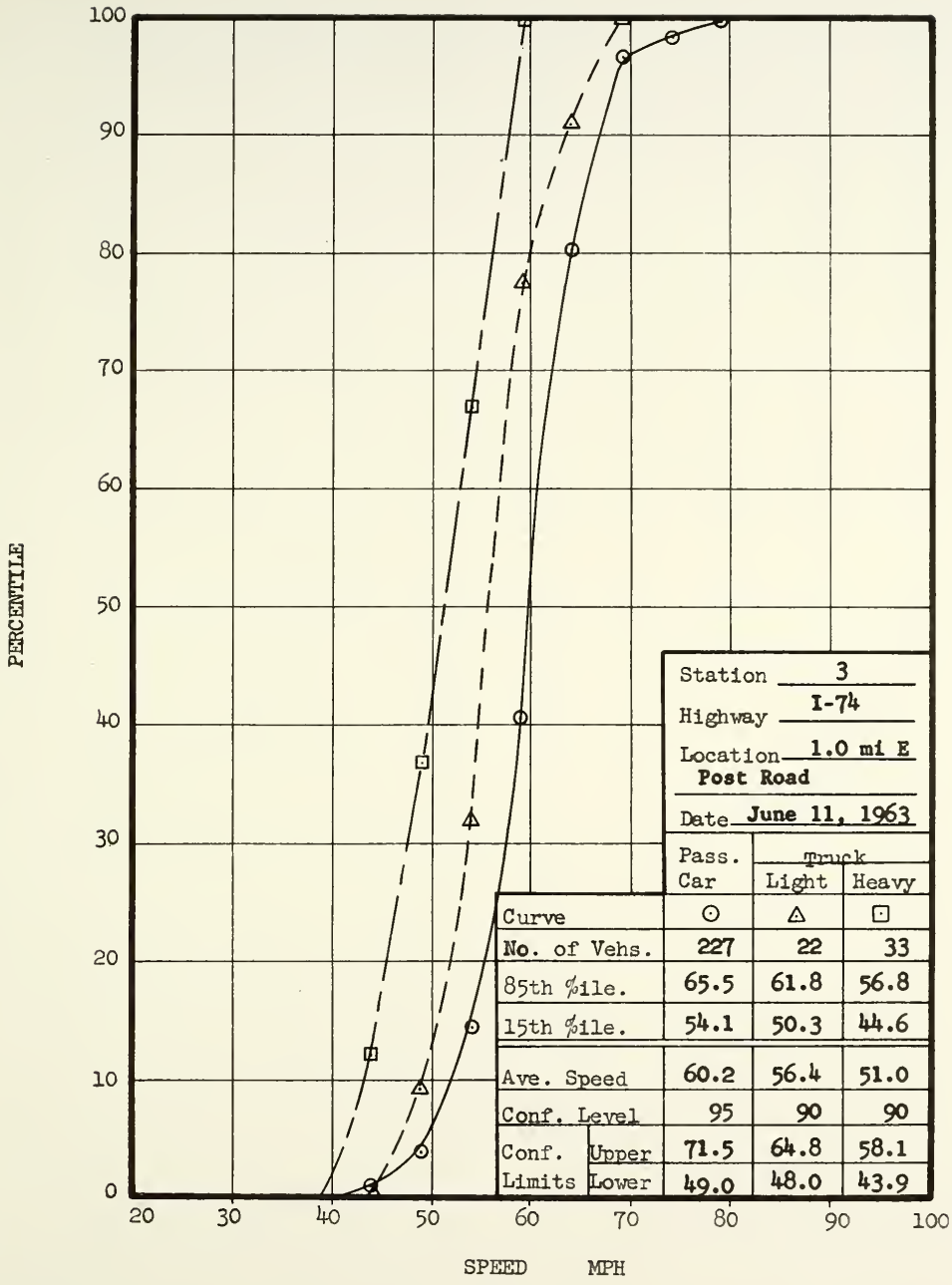

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 3
Highway I-74
Location 1.0 mi E Post Road
Date June 11, 1963
Pass. Car
Truck
Light
Heavy
Curve
No. of Vehs. 227 22 33
85th %ile. 65.5 61.8 56.8
15th %ile. 54.1 50.3 44.6
Ave. Speed 60.2 56.4 51.0
Conf. Level 95 90 90
Conf. Limits Upper 71.5 64.8 58.1
Lower 49.0 48.0 43.9

FIGURE 3

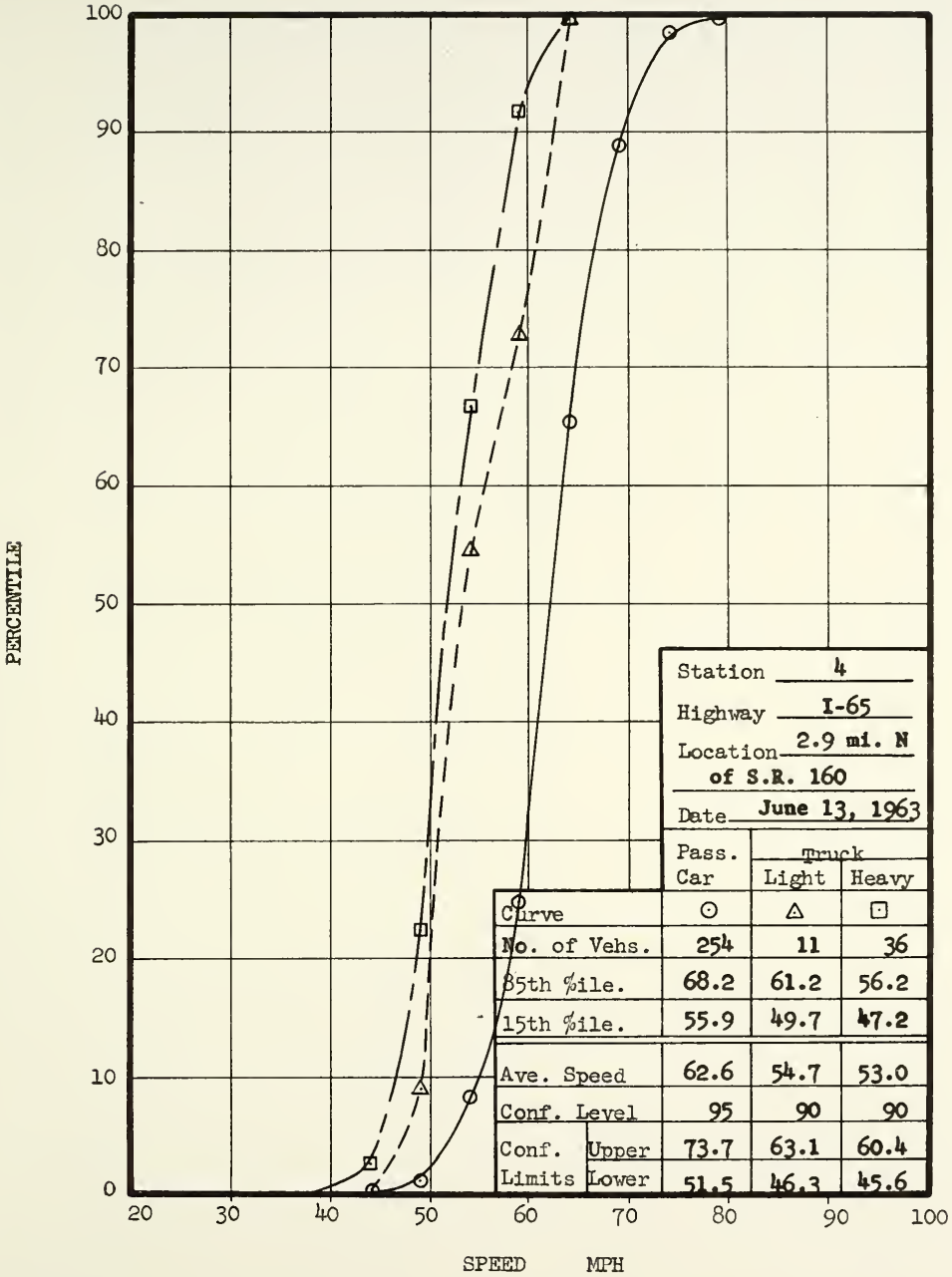

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 4
Highway I-65
Location 2.9 mi. N of S.R. 160
Date June 13, 1963
Pass. Car
Truck
Light
Heavy
Curve ⊙ △ ⊡
No. of Vehs. 254 11 36
85th %ile. 68.2 61.2 56.2
15th %ile. 55.9 49.7 47.2
Ave. Speed 62.6 54.7 53.0
Conf. Level 95 90 90
Conf. Limits Upper 73.7 63.1 60.4
Lower 51.5 46.3 45.6

FIGURE 4

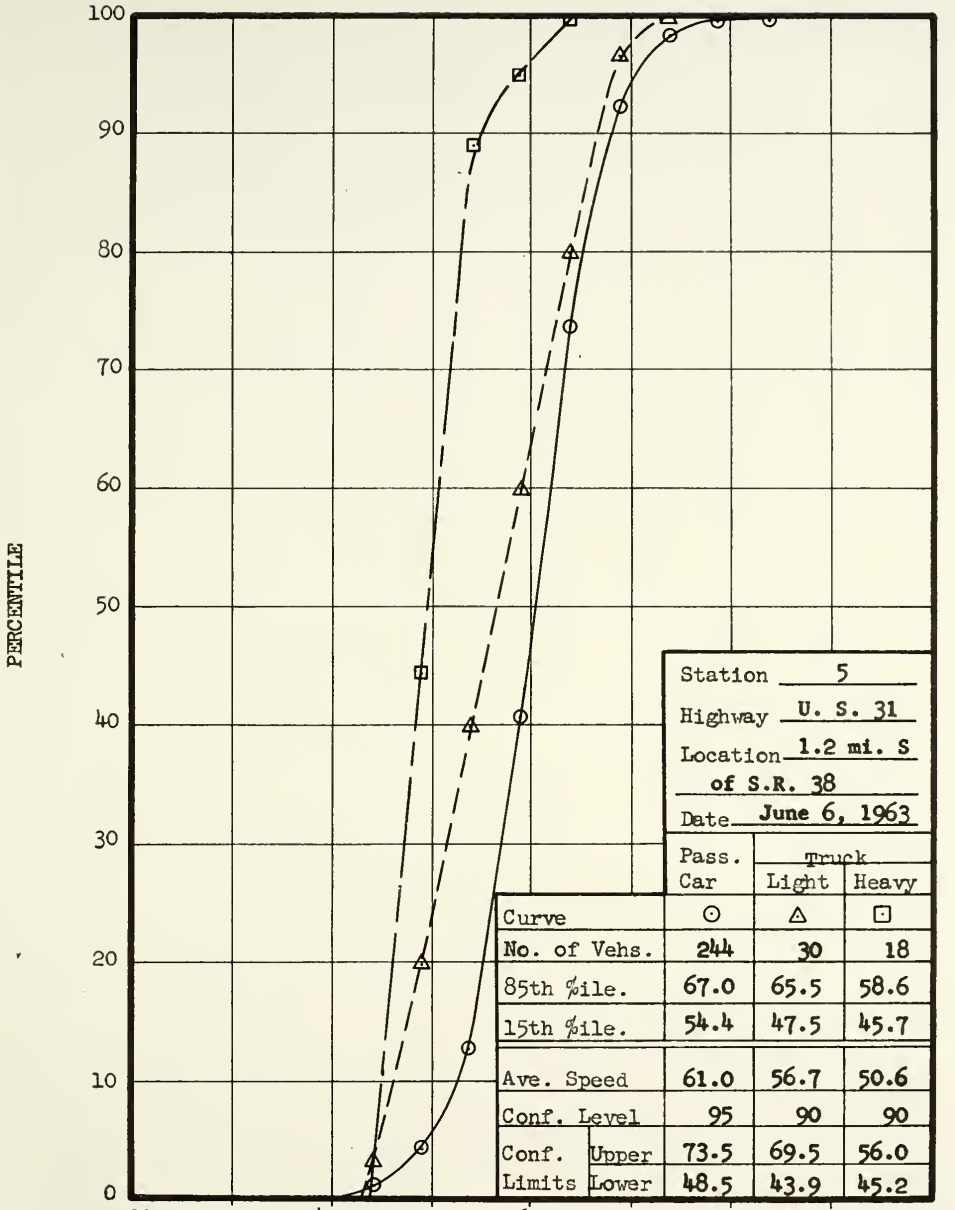

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 5
Highway U. S. 31
Location 1.2 mi. S of S.R. 38
Date June 6, 1963
Pass. Car
Truck
Light
Heavy
Curve
No. of Vehs. 244 30 18
85th %ile. 67.0 65.5 58.6
15th %ile. 54.4 47.5 45.7
Ave. Speed 61.0 56.7 50.6
Conf. Level 95 90 90
Conf. Limits Upper 73.5 69.5 56.0
Lower 48.5 43.9 45.2

FIGURE 5

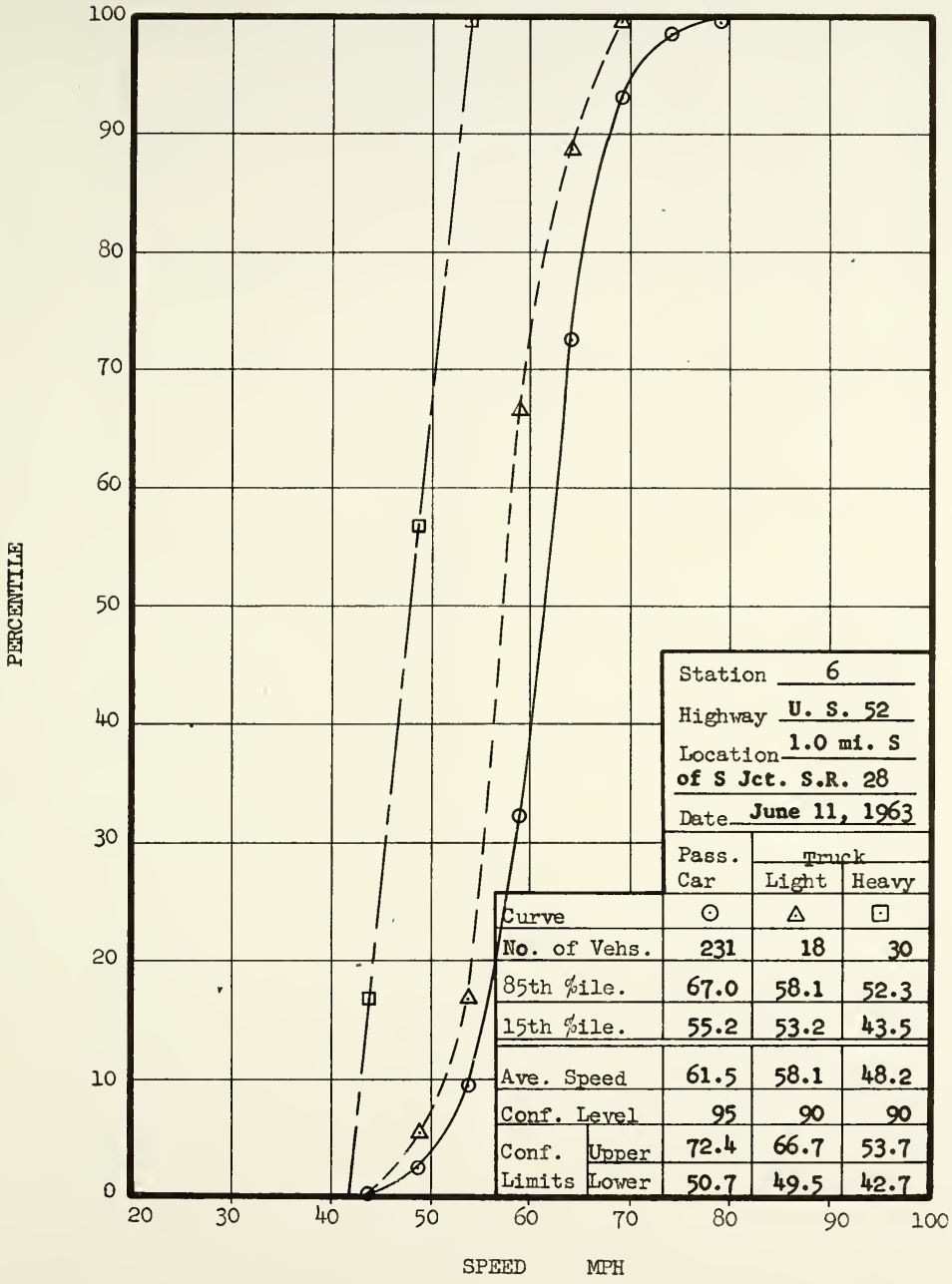

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 6
Highway U. S. 52
Location 1.0 mi. S of S Jct. S.R. 28
Date June 11, 1963
Pass. Car
Truck
Light
Heavy
Curve ⊙ △ ⊡
No. of Vehs. 231 18 30
85th %ile. 67.0 58.1 52.3
15th %ile. 55.2 53.2 43.5
Ave. Speed 61.5 58.1 48.2
Conf. Level 95 90 90
Conf. Limits Upper 72.4 66.7 53.7
Lower 50.7 49.5 42.7

FIGURE 6

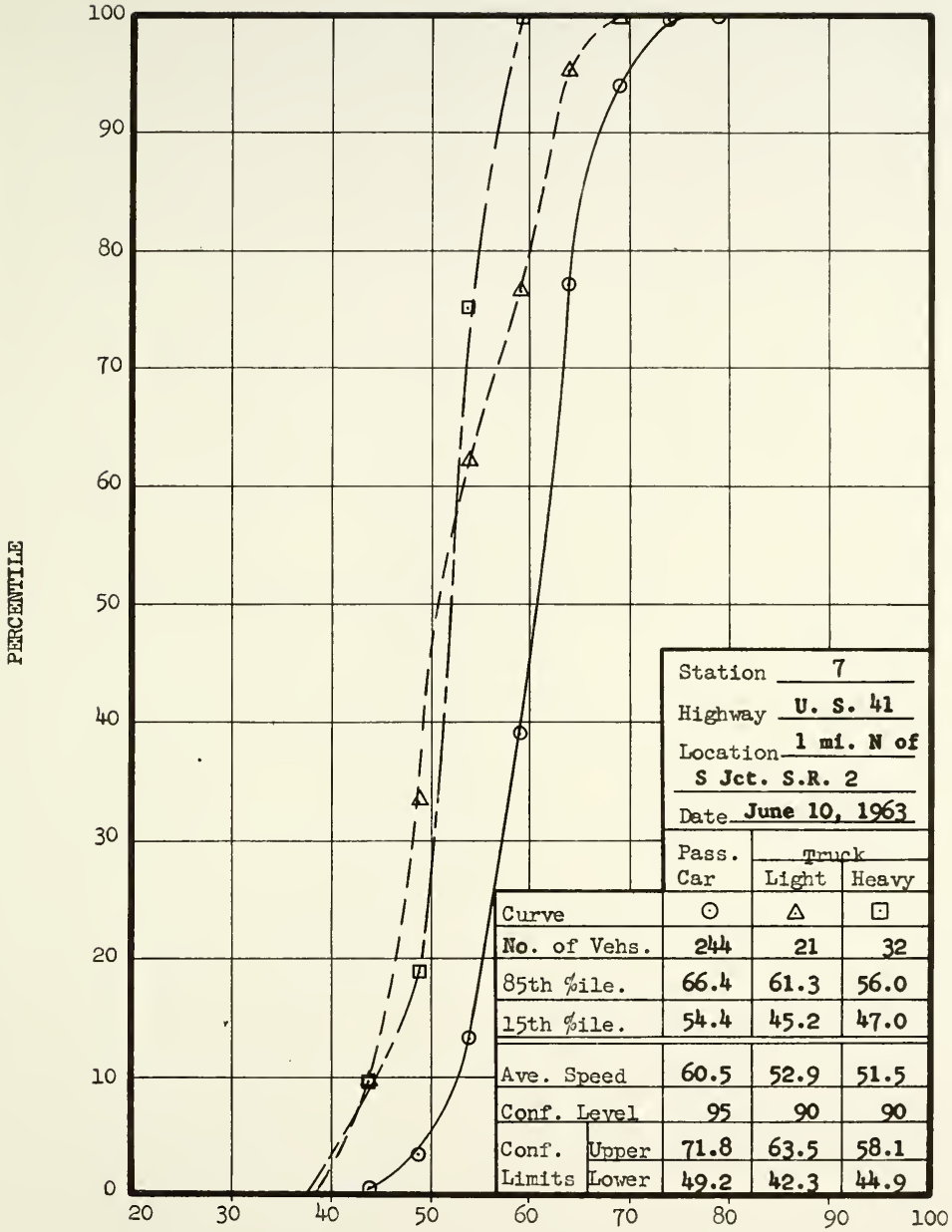

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 7
Highway U. S. 41
Location 1 mi. N of S Jct. S.R. 2
Date June 10, 1963
Pass. Car
Truck
Light
Heavy
Curve
No. of Vehs. 244 21 32
85th %ile. 66.4 61.3 56.0
15th %ile. 54.4 45.2 47.0
Ave. Speed 60.5 52.9 51.5
Conf. Level 95 90 90
Conf. Limits Upper 71.8 63.5 58.1
Lower 49.2 42.3 44.9

FIGURE 7

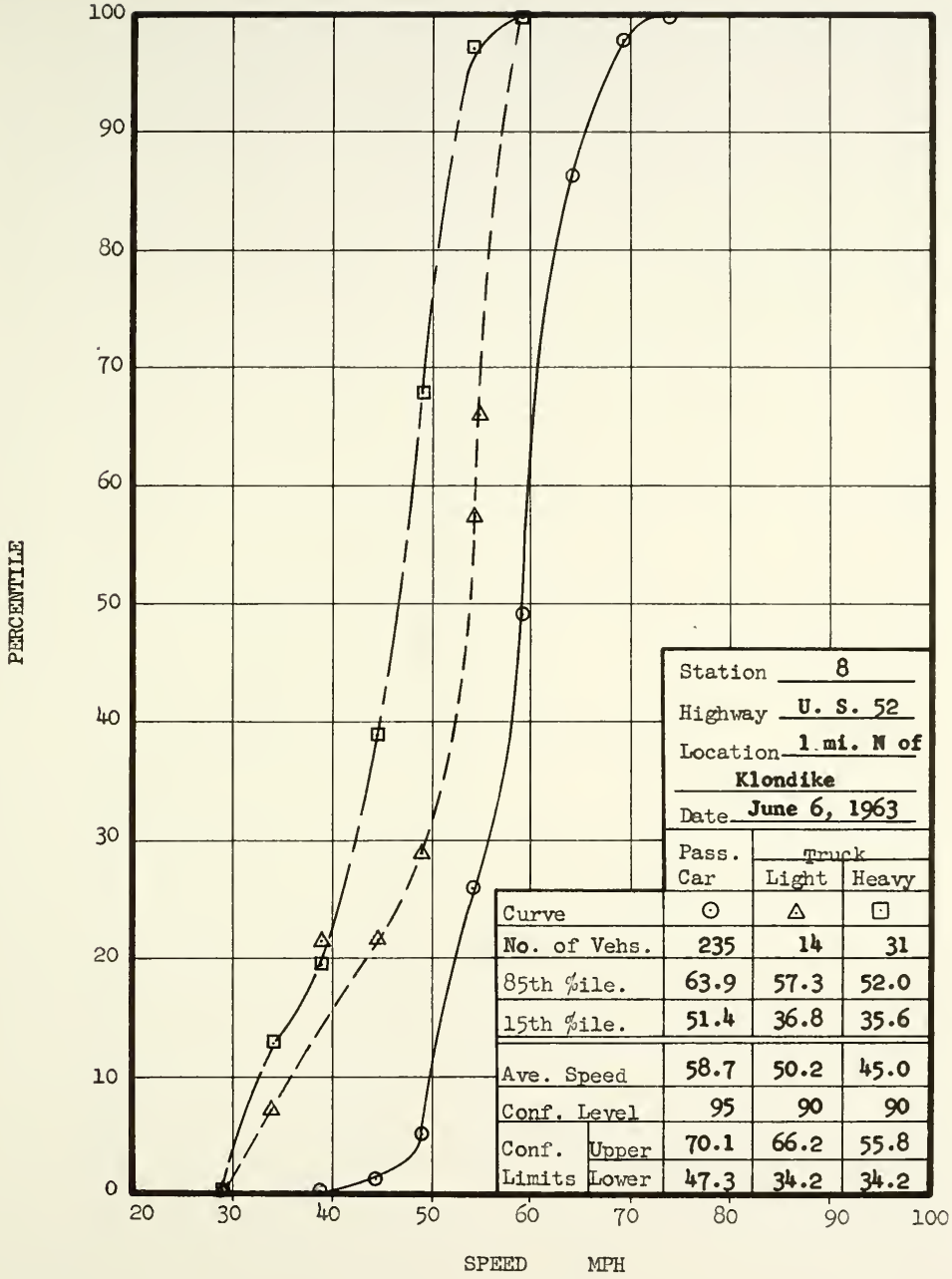

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 8
Highway U. S. 52
Location 1 mi. N of Klondike
Date June 6, 1963
Pass. Car
Truck
Light
Heavy
Curve ⊙ △ ⊡
No. of Vehs. 235 14 31
85th %ile. 63.9 57.3 52.0
15th %ile. 51.4 36.8 35.6
Ave. Speed 58.7 50.2 45.0
Conf. Level 95 90 90
Conf. Limits Upper 70.1 66.2 55.8
Lower 47.3 34.2 34.2

FIGURE 8

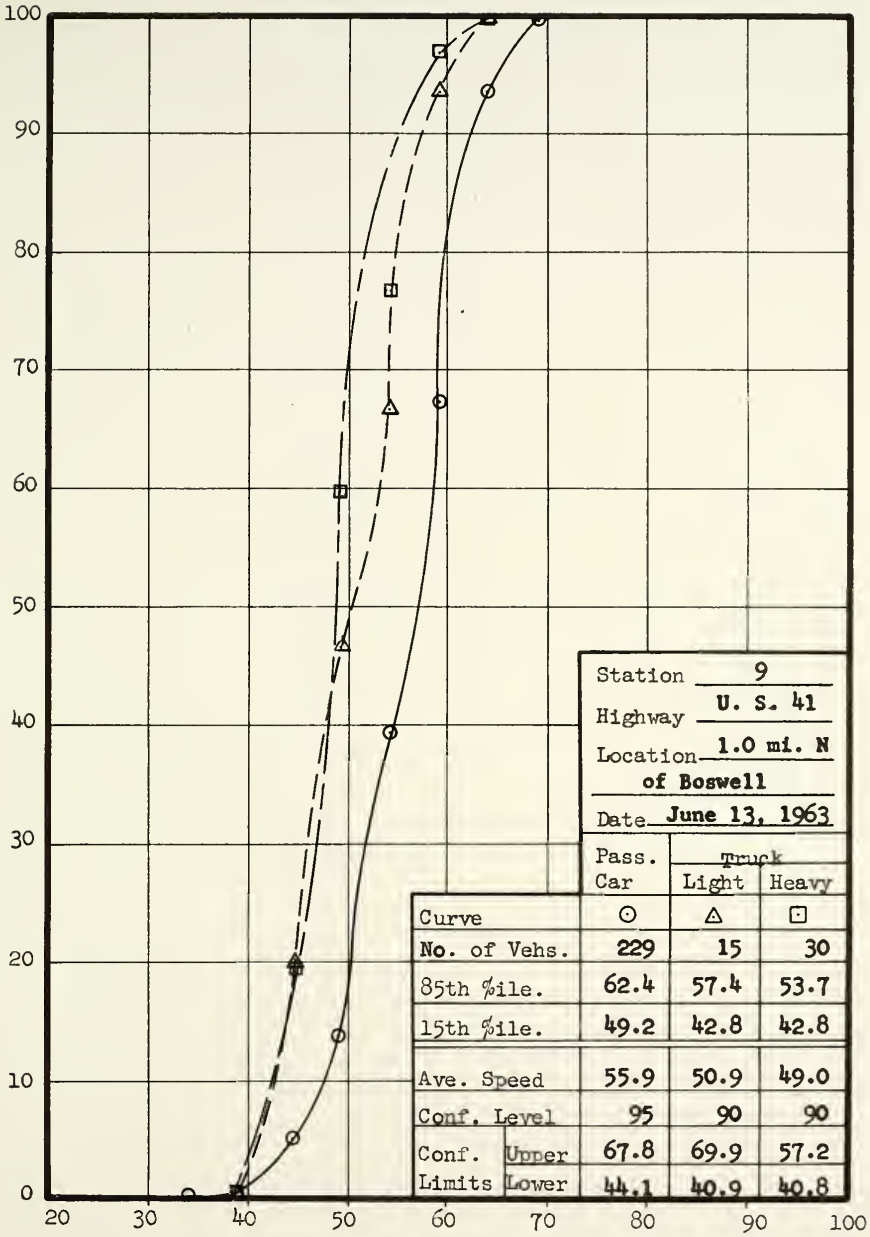

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 9
Highway U. S. 41
Location 1.0 mi. N of Boswell
Date June 13, 1963
Pass. Car
Truck
Light
Heavy
Curve ⊙ △ ⊡
No. of Vehs. 229 15 30
85th %ile. 62.4 57.4 53.7
15th %ile. 49.2 42.8 42.8
Ave. Speed 55.9 50.9 49.0
Conf. Level 95 90 90
Conf. Limits Upper 67.8 69.9 57.2
Lower 44.1 40.9 40.8

FIGURE 9

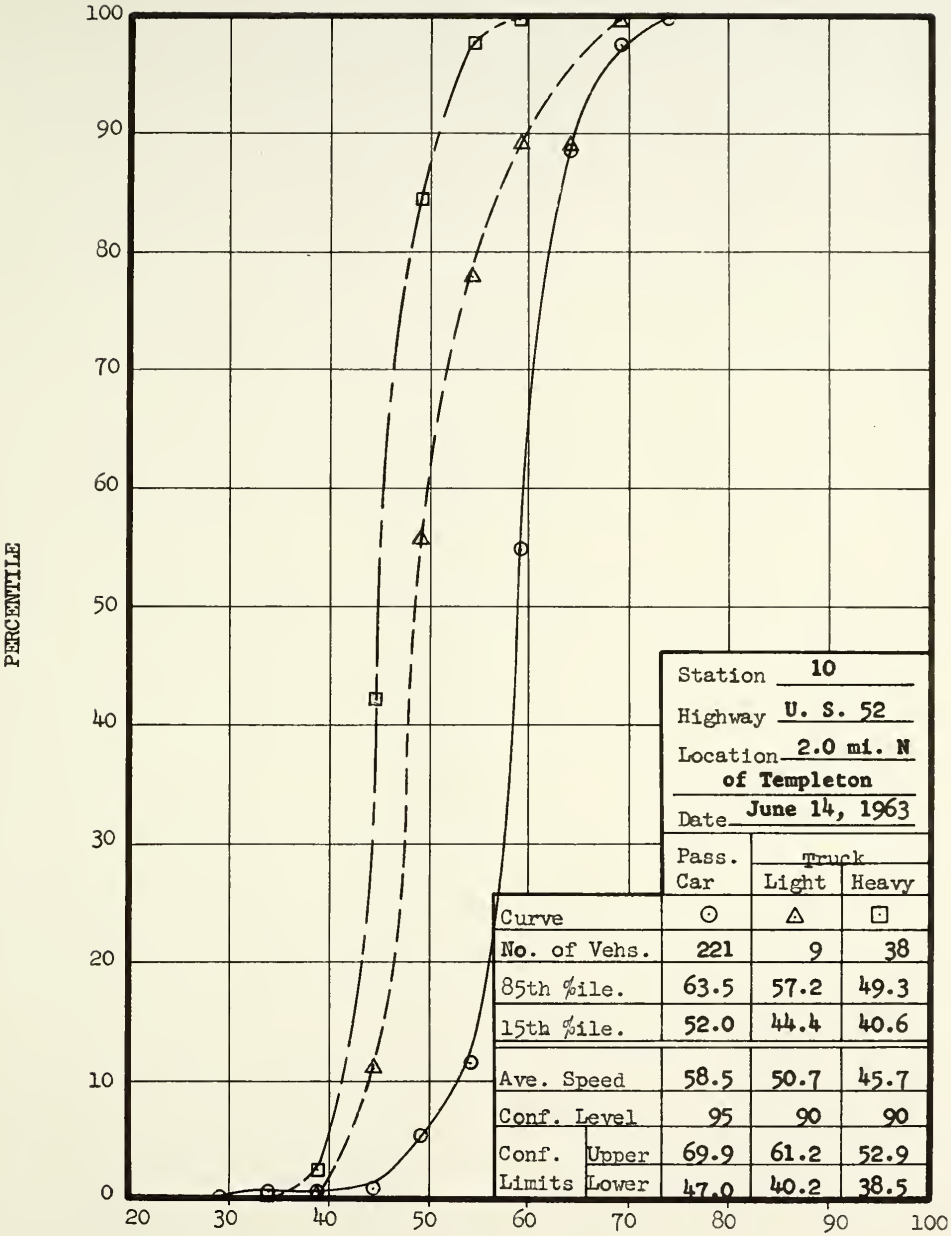

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 10
Highway U. S. 52
Location 2.0 mi. N of Templeton
Date June 14, 1963
Pass. Car
Truck
Light
Heavy
Curve
No. of Vehs. 221 9 38
85th %ile. 63.5 57.2 49.3
15th %ile. 52.0 44.4 40.6
Ave. Speed 58.5 50.7 45.7
Conf. Level 95 90 90
Conf. Limits Upper 69.9 61.2 52.9
Lower 47.0 40.2 38.5

FIGURE 10

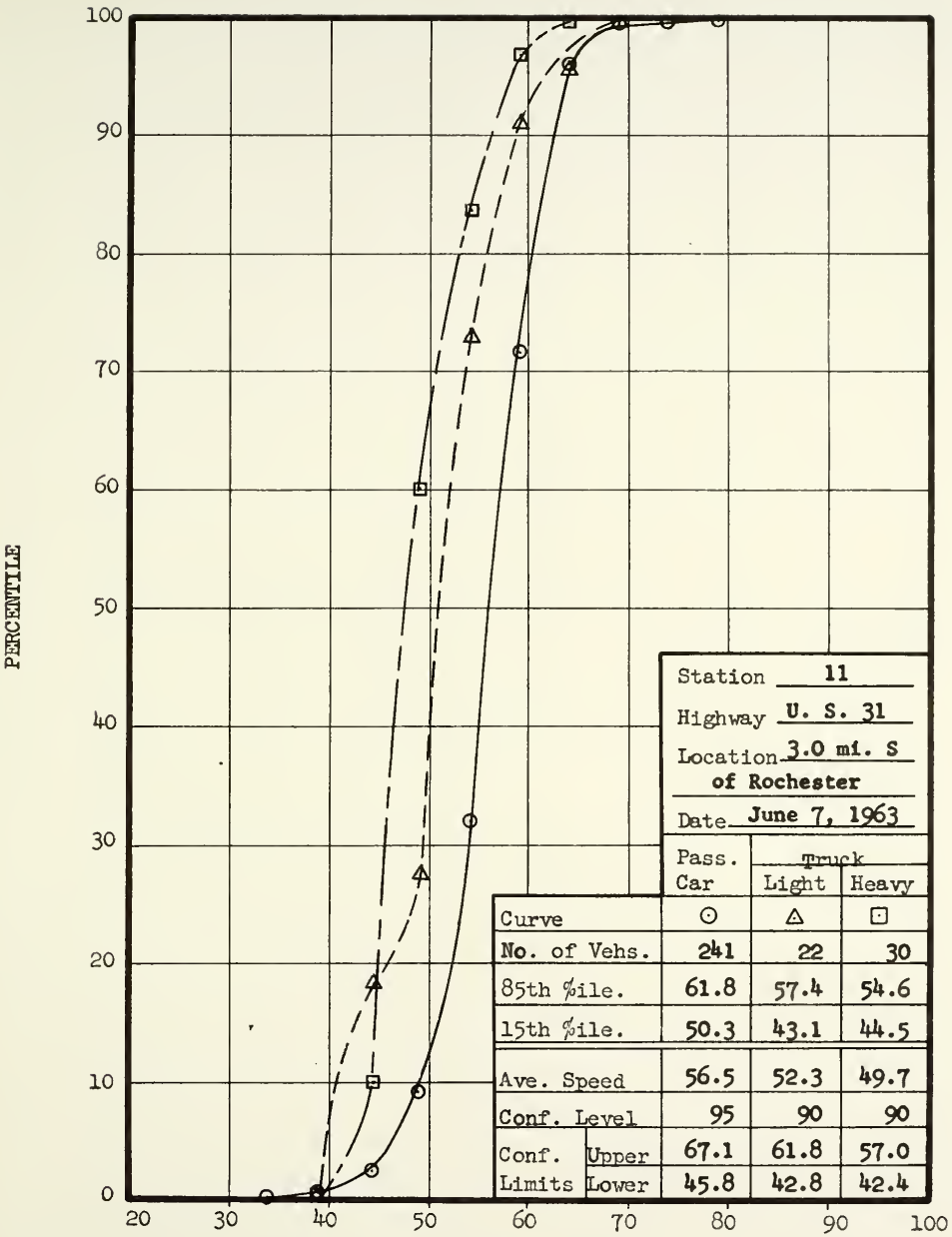

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 11
Highway U. S. 31
Location 3.0 mi. S of Rochester
Date June 7, 1963
Pass. Car
Truck
Light
Heavy
Curve ⊙ △ ⊡
No. of Vehs. 241 22 30
85th %ile. 61.8 57.4 54.6
15th %ile. 50.3 43.1 44.5
Ave. Speed 56.5 52.3 49.7
Conf. Level 95 90 90
Conf. Limits Upper 67.1 61.8 57.0
Lower 45.8 42.8 42.4

FIGURE II

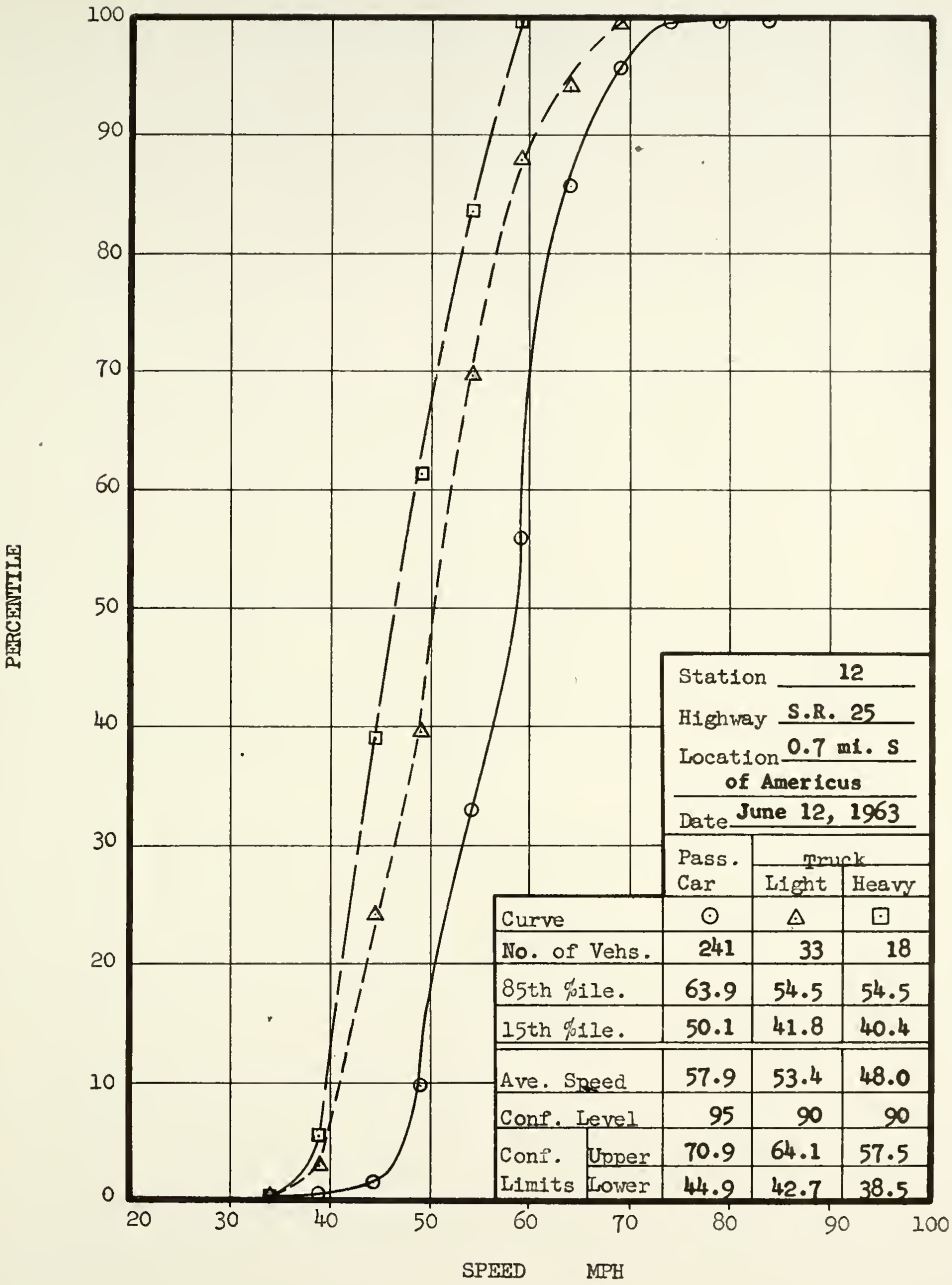

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 12
Highway S.R. 25
Location 0.7 mi. S of Americus
Date June 12, 1963
Pass. Car
Truck
Light
Heavy
Curve ⊙ △ ⊡
No. of Vehs. 241 33 18
85th %ile. 63.9 54.5 54.5
15th %ile. 50.1 41.8 40.4
Ave. Speed 57.9 53.4 48.0
Conf. Level 95 90 90
Conf. Limits Upper 70.9 64.1 57.5
Lower 44.9 42.7 38.5

FIGURE 12

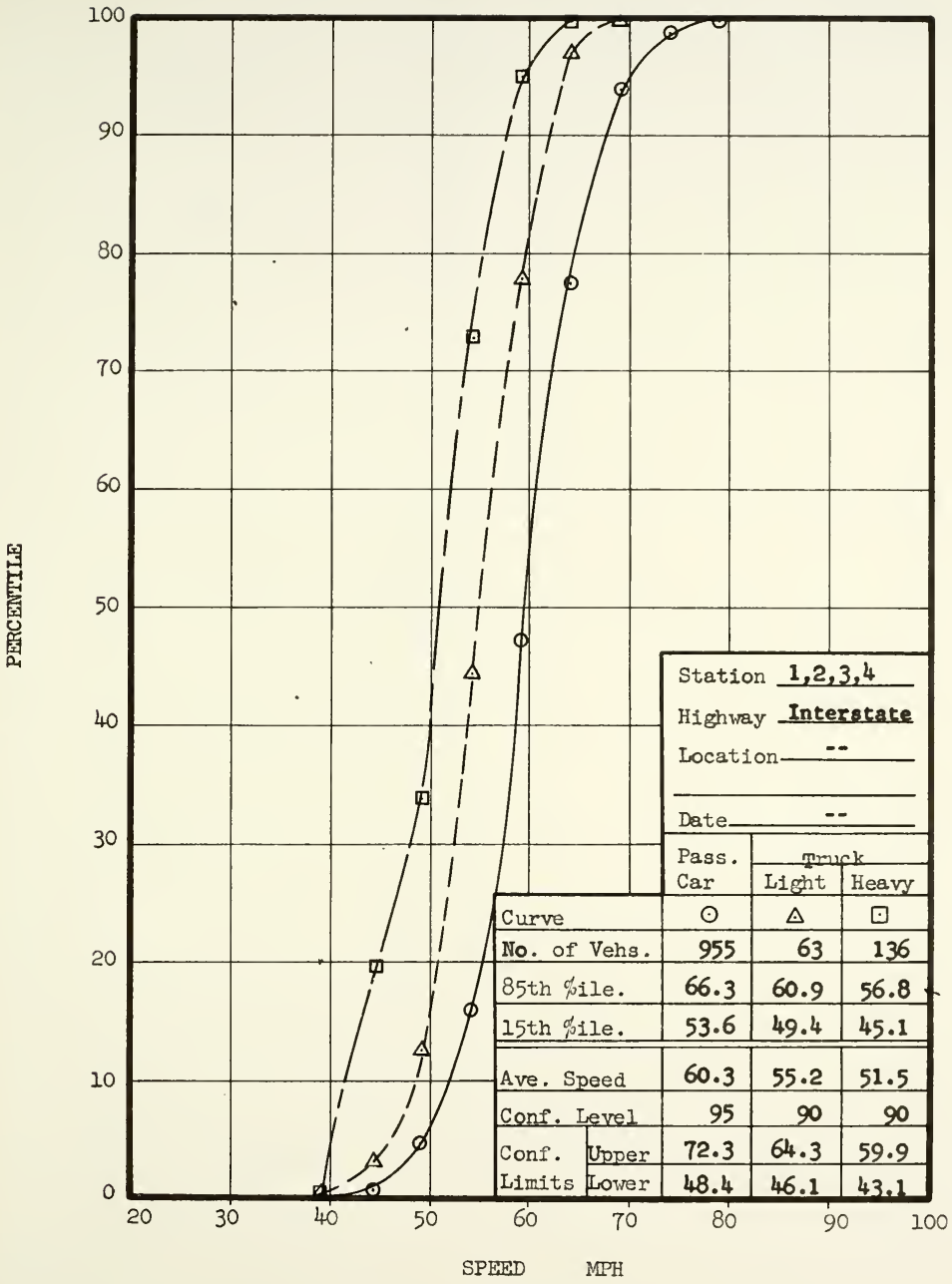
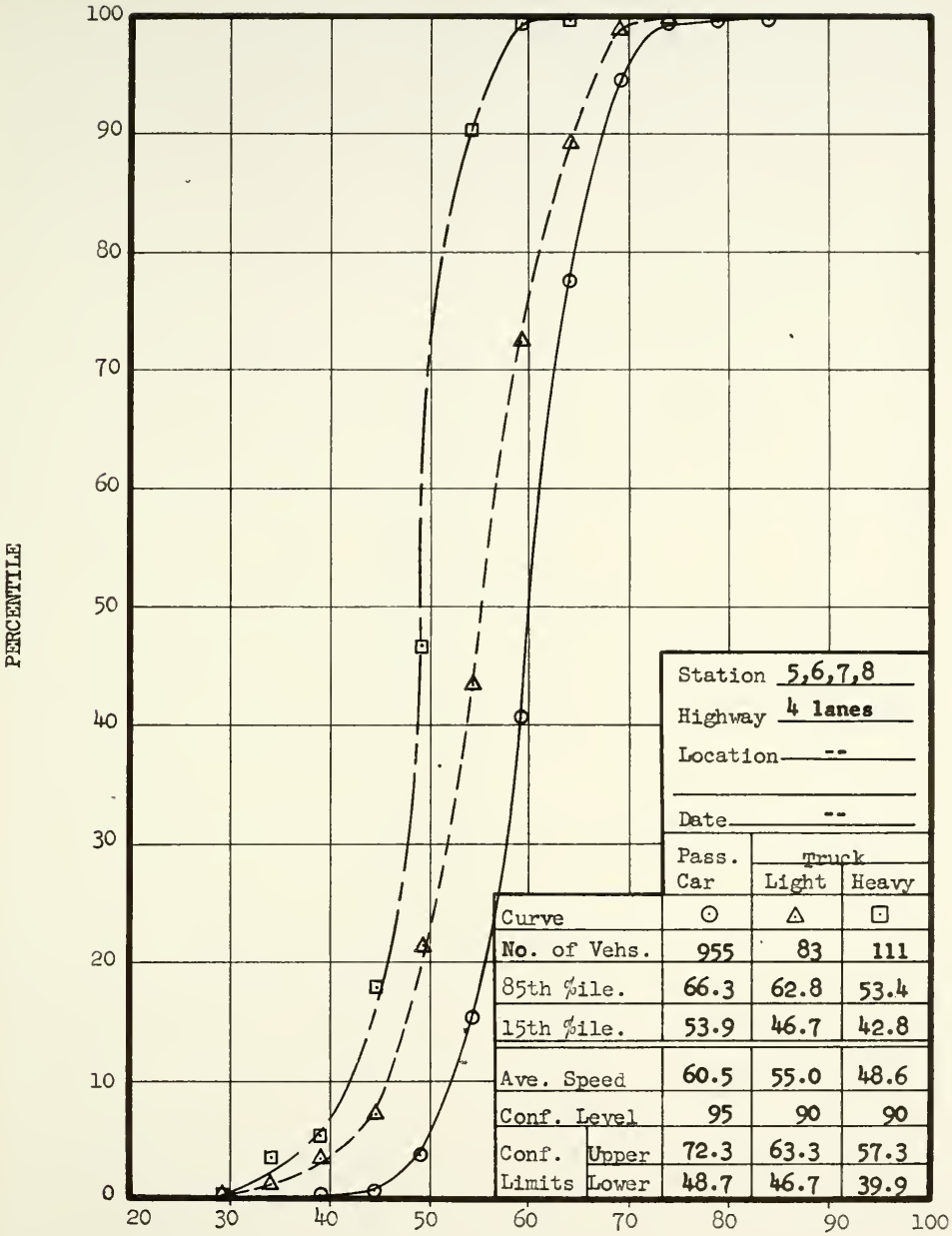

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 1,2,3,4
Highway Interstate
Location --
Date --
Pass. Car
Truck
Light
Heavy
Curve ⊙ △ ⊡
No. of Vehs. 955 63 136
85th %ile. 66.3 60.9 56.8
15th %ile. 53.6 49.4 45.1
Ave. Speed 60.3 55.2 51.5
Conf. Level 95 90 90
Conf. Limits Upper 72.3 64.3 59.9
Lower 48.4 46.1 43.1

FIGURE 13



	Pass. Car	Truck Light	Truck Heavy
Curve	⊙	△	⊡
No. of Vehs.	955	83	111
85th %ile.	66.3	62.8	53.4
15th %ile.	53.9	46.7	42.8
Ave. Speed	60.5	55.0	48.6
Conf. Level	95	90	90
Conf. Limits Upper	72.3	63.3	57.3
Conf. Limits Lower	48.7	46.7	39.9

FIGURE 14

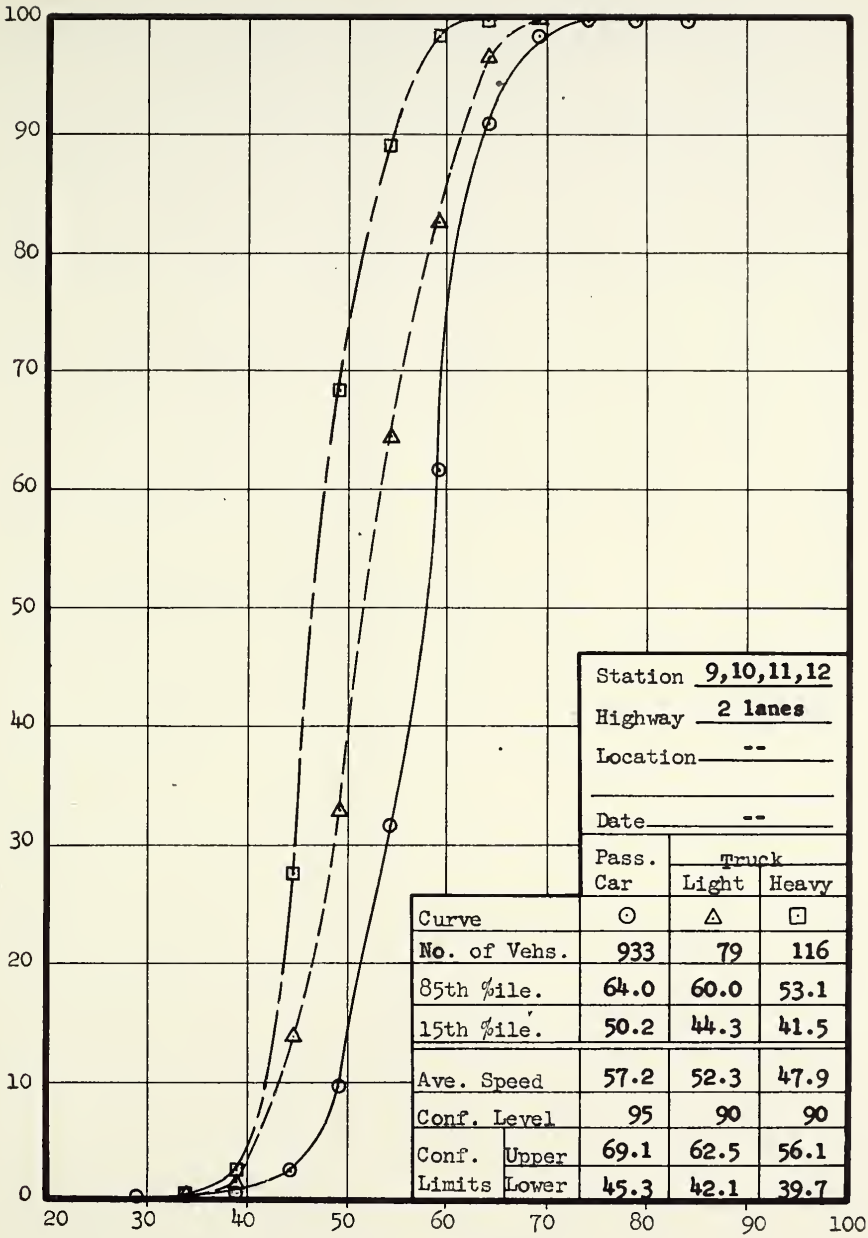

100
90
80
70
60
50
40
30
20
10
0
PERCENTILE
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 9,10,11,12
Highway 2 lanes
Location --
Date --
Pass. Car
Truck
Light
Heavy
Curve ⊙ △ ⊡
No. of Vehs. 933 79 116
85th %ile. 64.0 60.0 53.1
15th %ile. 50.2 44.3 41.5
Ave. Speed 57.2 52.3 47.9
Conf. Level 95 90 90
Conf. Limits Upper 69.1 62.5 56.1
Lower 45.3 42.1 39.7

FIGURE 15

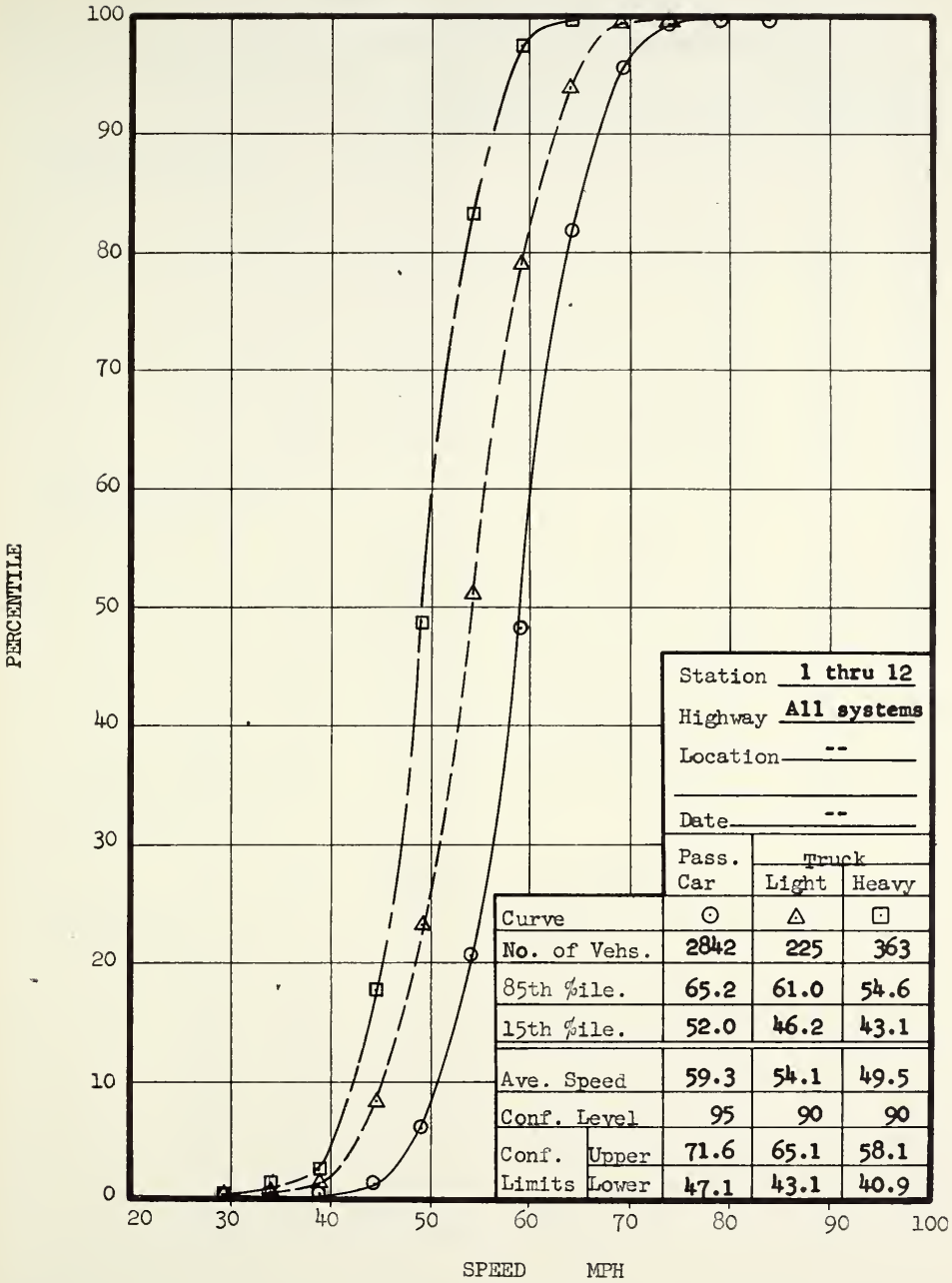

PERCENTILE
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
SPEED MPH
Station 1 thru 12
Highway All systems
Location --
Date --
Pass. Car
Truck
Light
Heavy
Curve ⊙ △ ⊡
No. of Vehs. 2842 225 363
85th %ile. 65.2 61.0 54.6
15th %ile. 52.0 46.2 43.1
Ave. Speed 59.3 54.1 49.5
Conf. Level 95 90 90
Conf. Limits Upper 71.6 65.1 58.1
Lower 47.1 43.1 40.9

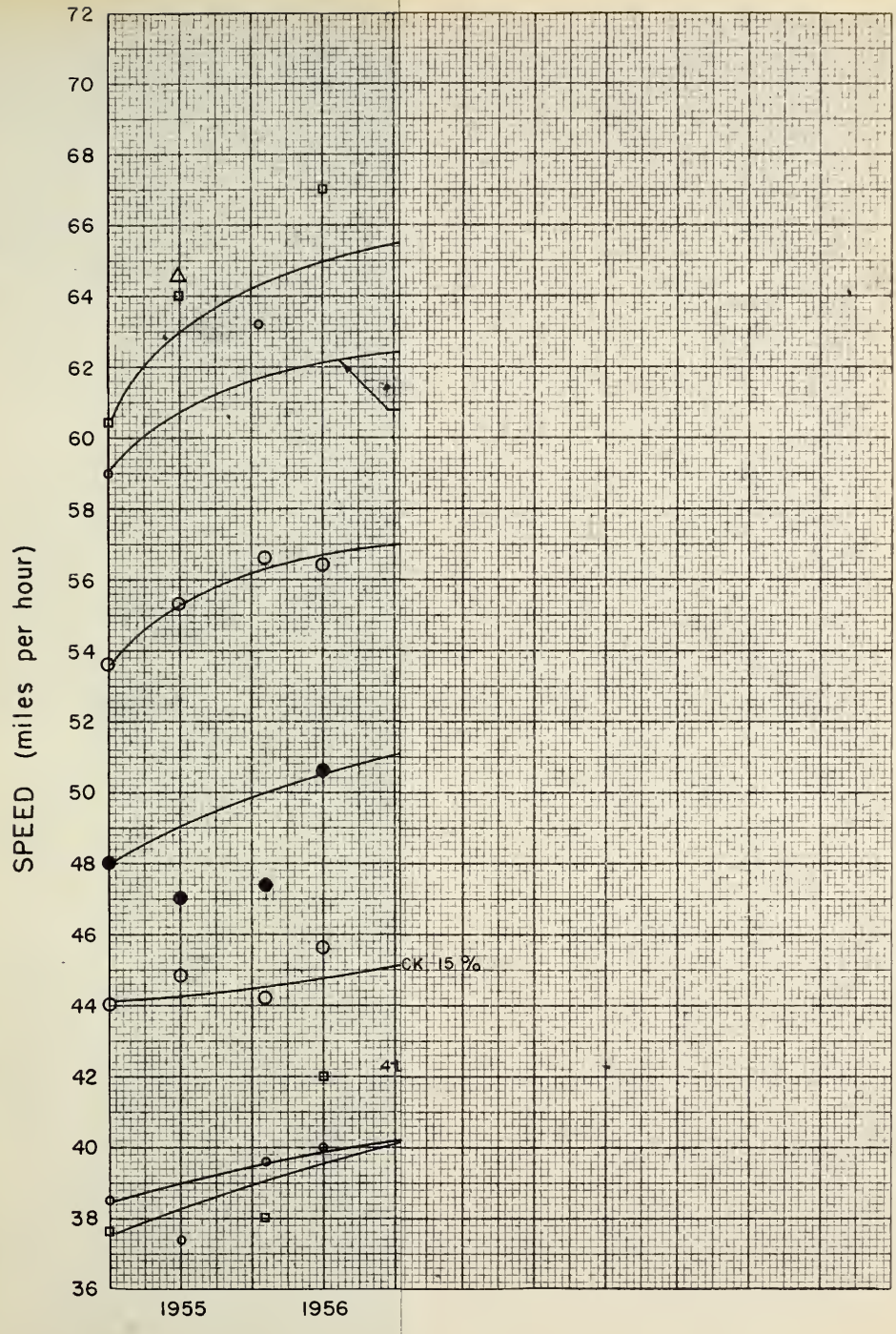
FIGURE 16

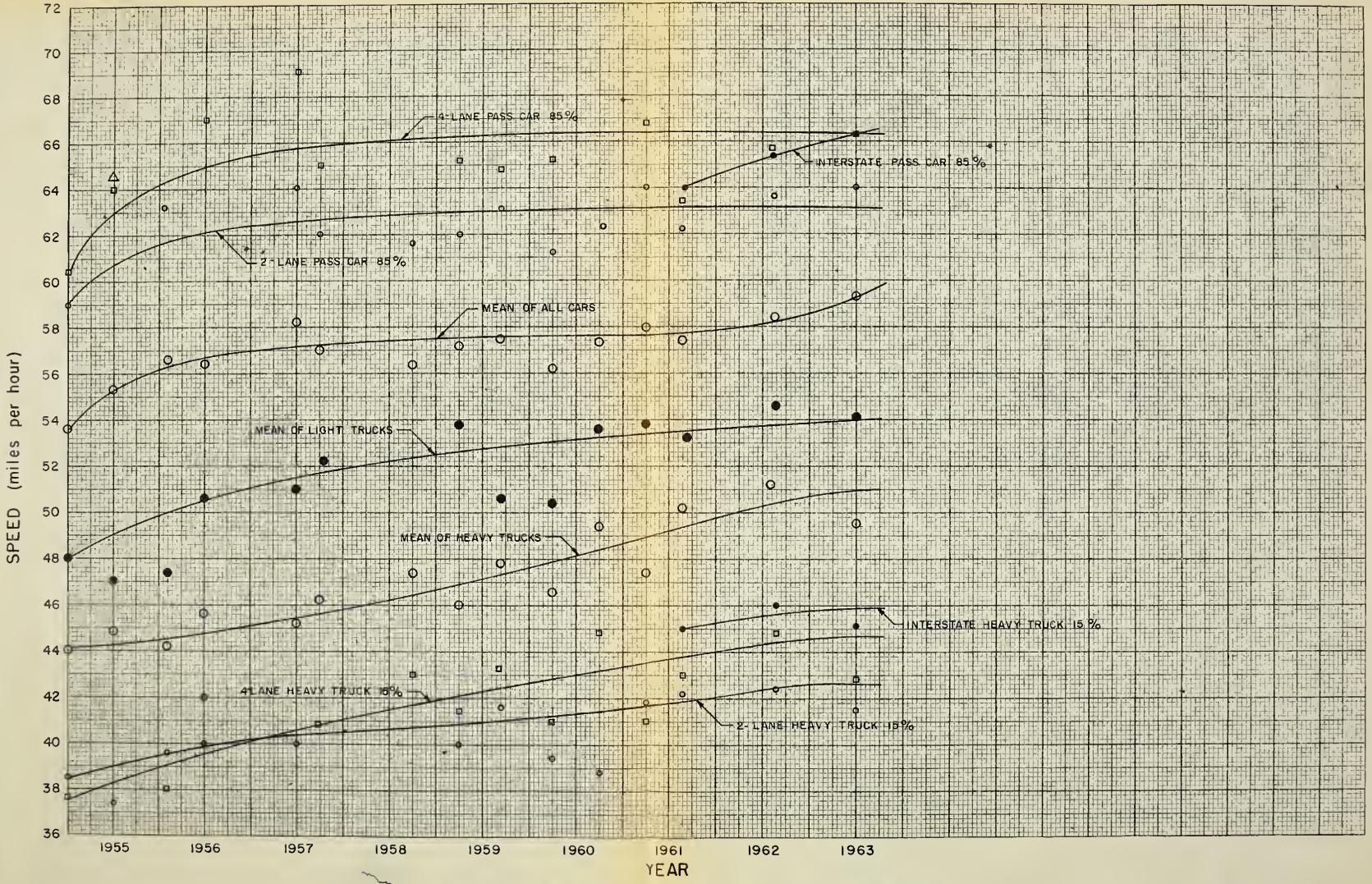
TABLE 17

SUMMARY OF SPOT SPEED OBSERVATION
ON INDIANA HIGHWAYS
(Free-Moving Vehicles on Level, Tangent Sections)

		Passenger Cars				Trucks		
		Ind. Mean	Non-Ind. Mean	All Mean	All 85 per	Light Mean	Heavy Mean	All Mean
Two-Lane Highways								
May	'57	55.6	59.1	56.9	64.0	50.2	44.8	46.1
Aug.	'57	55.5	56.7	55.9	62.1	51.7	45.8	47.3
Aug.	'58	54.3	56.3	55.0	61.7	53.0	46.3	47.8
Mar.	'59	55.5	57.7	56.1	61.9	50.4	45.4	46.3
Aug.	'59	55.6	55.3	55.9	63.2	49.7	46.7	48.0
Mar.	'60	53.3	54.8	53.7	61.2	48.5	45.9	46.6
Sept.	'60	55.7	55.6	55.6	62.0	53.0	48.1	49.1
Mar.	'61	56.7	56.4	56.6	63.9	53.7	47.5	49.3
Aug.	'61	56.2	55.7	55.9	62.2	50.4	48.9	49.3
Aug.	'62	56.7	57.5	57.0	63.7	53.1	49.3	50.1
Jun.	'63	56.9	57.7	57.2	64.0	52.3	47.9	49.7
Four-Lane Highways								
May	'57	59.9	63.6	61.0	69.0	52.2	46.0	47.9
Aug.	'57	57.5	59.9	58.5	64.8	52.0	46.6	47.6
Aug.	'58	58.0	59.6	58.7	65.0	54.3	49.0	50.0
Mar.	'59	58.2	61.7	59.0	64.9	53.6	47.0	48.4
Aug.	'59	58.4	60.1	59.1	64.5	50.0	53.1	49.5
Mar.	'60	58.1	59.2	58.4	65.0	52.4	47.3	48.4
Sept.	'60	59.5	60.2	59.7	65.8	54.8	51.3	52.0
Mar.	'61	58.9	61.0	59.6	66.7	54.0	47.3	48.9
Aug.	'61	57.6	57.6	57.6	63.5	53.6	50.3	51.0
Aug.	'62	59.2	59.3	59.2	65.8	54.7	51.3	51.9
Jun.	'63	60.4	60.6	60.5	66.3	55.0	48.6	51.3
Interstate Highways								
Aug.	'61	56.7*	56.9*	58.2	64.0	55.9	51.5	52.4
Aug.	'62	58.7	59.1	58.8	65.6	55.8	52.7	53.2
Jun.	'63	59.7	61.2	60.3	66.3	55.2	51.5	52.7
All Highways								
May	'57	57.2	60.3	58.3	66.0	50.9	45.2	46.6
Aug.	'57	56.2	58.3	56.9	63.2	51.8	46.1	47.4
Aug.	'58	55.7	57.9	56.5	63.1	53.4	47.5	48.7
Mar.	'59	56.6	59.0	57.2	63.1	51.5	45.9	47.0
Aug.	'59	56.5	58.4	57.4	63.5	50.6	47.8	48.6
Mar.	'60	55.6	57.1	56.0	63.0	50.2	46.6	47.5
Sept.	'60	57.3	57.6	57.4	63.7	53.7	49.4	50.2
Mar.	'61	57.7	58.3	57.9	65.1	53.8	47.4	49.1
Aug.	'61	56.9	56.7	57.3	63.4	53.1	50.3	51.0
Aug.	'62	58.2	58.7	58.4	65.1	54.5	51.2	51.8
Jun.	'63	59.0	59.9	59.3	65.2	54.1	49.5	51.2

*Includes data for only three of the four stations on Interstate Highways


SPEED (miles per hour)
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
36
1955
1956
CK 15 %
41



INDIANA RURAL SPEED TRENDS 1955-1963